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MICROBES AND MEN

A SURGEON'S PHILOSOPHY

DOCTORS VERSUS FOLKS

THE WAY OUT OF WAR

Notes on the Biology of the Subject

BY

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PREFACE

SOCIOLOGY has failed in its attempt at bringing the subject of warfare down to satisfactory conclusion. Psychology then took up the task, as a specialist, but without practical result. The reason for this is because sociology and psychology belong largely to educational conviction. Warfare as an expression of natural law cannot be examined critically excepting from its fundamentals in natural history.

It is to be the jurist or the biologist who will finally construct the Magna Charta of peace for to-morrow's nations, but the jurist must draw his plans of natural equity from a basis of natural law as set forth in Darwin's principle of interdependence.

In connection with these notes the author would suggest that the student of the subject of warfare consult "Is War Diminishing?" by Woods and Baltzly and "A Mechanistic View of War and Peace" by Crile.

When the War material for the third edition of Microbes and Men was being prepared, the only space at the author's disposal was that occupied by the notes written in 1915. Instead of replacing the original notes with the new text, it has seemed best to allow them to stand, a bit changed, and to enlarge upon certain selections from the notes in the form of this small book, which constitutes the fourth volume of the Tomorrow's Topics series.

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RECORD OF INSTANCES

THE WAY OUT OF WAR

NOTES ON THE BIOLOGY OF THE SUBJECT

RECORD OF INSTANCES

History in the past has been written largely from the subjective point of view and not impersonally in terms of science. When Napoleon wished to consult any given history he had a way of saying, "Bring me the liars for that period."

Social methods in the past have not succeeded in ensuring any very durable periods of peace and the sociologist has nothing new to offer for the future beyond metaphysical conception.

In this part of the present century we may approach the subject of warfare along an untried path with a guide of modern science.

We shall be enabled to enter into warfare or to retreat from warfare in the future under direction by the intellectual set of faculties in-

stead of as formerly by the emotional set of faculties.

Biologists who understand the essentials of the entire subject are not quoted in the newspaper press and yet it is not improbable that some young people would really like to know something about the natural history point of view.

The civilised world quite as well as the uncivilised world has consisted so far in what we may call a sort of wild growth of nations. Culture has lengthened peace intervals in a progressive way on the whole since the days when no man's life or property could be protected very securely.

This lengthening of peace intervals, however, has been done only as a rather ignorant farmer manages to improve his crops year after year as a result of observation of salient mistakes. Not much has been done as yet toward systematic avoidance of warfare-by-arms and the reason for that is because data relating to the subject have not been examined critically in a search for first principles. The vast literature of the subject has been mainly sociologic in its nature. Sociologists occupy themselves largely

with non-essentials. They take up the subject of warfare very much as a botanist might attempt to make an elaborate classification of plants from fruits alone. Warfare-by-arms is only one kind of fruit of social plants undergoing rapid evolution changes, man being one of the social phyletic primates, as compared with the unsocial gorilla and orang-outang.

Why is it that the public does not care to make itself familiar with fundamentals of any sort, including those belonging to warfare? This particular question belongs to the phase of natural history of man known as his psychology. It is rather well understood by the public that technical knowledge of high degree is required for the thorough knowing of any subject. People in general are conscious of their lack of training in scientific method and of memories not loaded with full equipment of facts which may be brought to bear. For that reason they prefer to put faith in experts, and to leave technical questions for settlement by such authorities. A biologic conception of warfare does not appeal deeply to the average man's daily or weekly mind for the reason that the philosophy of the subject cannot be made promptly effective in a

pragmatic way. When a subject like that of warfare-by-arms arouses an intense interest, there is a rapid general grasping for means and measures for settling each question as it appears in turn. During times of peace, on the other hand, the whole subject of warfare is put aside as irrelevant to the affairs of the day.

Idea constitutes a separate unit in consciousness, and most people are concerned with idea belonging to the intellect in the course of ordinary procedure. Feeling constitutes another separate unit in consciousness, and during times of stress of war, idea becomes transformed into feeling. It is very much like the transformation of a solid substance into a gas, the gaseous form occupying larger space but at the same time losing that force of momentum and velocity which would belong to a solid substance. Hocking believes that idea and feeling may be made a double unit in consciousness, but for war purposes this would be something like a solution of gun-powder in water to be hurled at the enemy along with appropriate epithets.

The public apparently does not care to make itself familiar with the fundamentals of a subject like that of war in the abstract because of

these two chief reasons. During times of peace it prefers to leave the subject to experts as a technical matter, not intimately connected with practical affairs. During times of war the public rapidly transforms idea into feeling, a sort of mental gaseous state incapable of moving basic problems into alignment for immediate results. The immense destruction belonging to warfare is due to conduct under the actual influence of feeling. Construction after the war is left to political experts rather than to biologic experts. We have experts enough in every field of human activity, but up to the present time the public has not learned how to use the experts which are at its disposal. The subject of warfare-by-arms has been discussed at length by military and political experts at The Hague, but these men did not care very much about questions of natural fundamentals. They have proceeded minus consultation with biologists.

The biologic standpoint is the only fundamental one and consequently the only one upon which a constructive criticism relating to warfare may be made. Let us then examine the natural history of warfare. This will not only be a record of expressions of warfare begin-

ning in the inorganic world and continuous with the appearance of organic life up to the present time, but it will include an account of the function of warfare in human development and the natural basis for peace.

Inorganic warfare occurs between different natural elements, oxygen and hydrogen for example, which struggle for advantage of position according to the code of periodic law. Certain ones among the inorganic elements away back in the past succeeded in forming the organic cell as a result of their struggle. The organic cell consists of protoplasm and protoplasm is the fundamental unit of all organic life. A low form of organic cell, the amœba, found itself promptly engaged in struggle with another protoplasmic object, the microbe. The amœba acts in the capacity of nature's constructive agent in organic life, the microbe acts in the capacity of nature's destructive agent against organic life. This general statement without qualification may be allowed to stand for picture purposes while drawing our architectural plans for a peace edifice.

The amœba or simple cell makes up social colonies by aggregation for purpose of nutri-

tion, protection, and propagation. Such social colonies of amœbæ are called "a plant" or "an animal," and the social habit is extended to include combinations of plants and animals in what we call pure stands of plants, herds of sheep, and nations of men, for example. The evolution of apple trees, sheep, and men has been social rather than individual.

A man is nothing more than a vast colony of amœbæ or simple cells arranged in groups for purposes of mutual benefit. The groups of cells form the various tissues and structures of his body. Nature's agent of destruction, the microbe, is persistently engaged in attempts at breaking up all aggregations of amœbæ (animals and plants) for its own food purposes. Consequently every living animal and plant is engaged in persistent struggle with its hereditary enemy, the microbe, in the same way as the primitive simple cell was obliged to enter into warfare with the microbe. Warfare against the microbe belongs wholly in the defensive phase, excepting where the introduction of the physician and surgeon may be called also nature's plan. From the fact that every living thing is an object for unrelenting offensive on

the part of the microbe we may deduce a belief that man is the highest organism from the observation that he has more microbic enemies than any other known animal or plant. A man consisting of cell structures, in other words of colonies of amœbæ, is not only an object for attack by the microbe, but there are jealousies between his different cell colonies, very much like the political differences within a state, or very much as in a newspaper office each editor makes claim for a disproportionate amount of space in the interest of his respective department.

The very lowest organisms, even simple cells, develop defence measures and their weapons are chemical in their nature. Higher up in the social scale, aggregations of simple cells develop structures like teeth and claws which are suitable for purposes of offence and defence. Man by means of his intelligence extends his teeth into the form of a sword, and his claws into the form of a gun, and consequently can reach out farther than the lower animals reach, obtaining an advantage in range of action.

Nature has conducted evolution and the regulation of population according to certain plans. She sets the microbe at work against man's en-

tire group of cell structures, places his different structures in competition with each other, and finally sends whole men into conflict with each other along lines of competitive might, in order to allow the mightiest to win. These three points now require elaboration.

(a) Concerning the microbe. Microbes kill more people than are killed in warfare by arms. When the returns of the Battle of Bull Run were reported to Lincoln, he burst into tears of sorrow and chagrin; but two or three centuries may perhaps elapse before any statesman will burst explosively into tears of sorrow and chagrin over the loss of life from preventable microbic attack. In some parts of South America, the death rate in native villages from the microbes of smallpox and typhoid fever amount to about thirty per cent. of the entire death rate year after year. When we consider the large number of species of microbes which are represented in the different contagious and infectious diseases, it is probable that microbic warfare takes practical charge of the questions of overpopulation in all parts of the world. In Africa, where warfare between tribes is now prevented by European rulers, this former employment of

the best men has been banished, but with an increasing population the microbe in some parts of Africa is now carrying off more people than were formerly killed in the process of warfare-by-arms. The question is merely one of comparative cruelty, allowing people to be killed by the microbe, or allowing them to be killed by force of arms. There is perhaps less physical suffering in frank military warfare than when the surplus of people is carried off insidiously by the microbe; excepting for the fact that a mental and moral feature, destructive in character, is introduced in the course of warfare-by-arms. In wars of the past, so far as the death rate is concerned, the microbe has killed more soldiers than were killed by weapons. In the Spanish-American War the microbic deaths of our soldiers as compared with those of death from weapons were something like twenty to one.

The microbe not only attacks a single cell and all subsequent combinations of cells, but it is influential in some of its activities toward setting the various organisms into conflict with each other. Thus the dog becoming old with senility of protoplasm is irritated by toxins of the colon

bacillus in such a way that he loses character. A noble dog, magnanimous because of fine breeding, will then attack a pup in the same spirit in which von Clausewitz bombed babies. This cross old dog flies at other dogs larger than himself without regard for consequences. In man the colon bacillus, when acting as an agent for producing the phenomena of gout, leads men to act as the old dog acts, and for the same reason. They mistake the irritation affecting their personal cenesthesia for that of genuine purpose.

The microbe is not only more potent than warfare in conducting the evolution of nations but it exerts increasing influence upon the life courses of all individuals within a nation. The bacteriologist is familiar with that fact—but the public is by no means ready to give consideration to a question which interests it so fundamentally and vitally.

Nature is presumably quite as much interested in the welfare of her microbe agents as she is in man, both being natural objects. This feature of warfare between the two is commonly overlooked because Theology as an influential instructor has been anthropocentric in its

teachings. The naturalist on the other hand perceives that warfare between microbe and man has farther reaching influence than war between men.

(b) In relation to conflict between different cell structures of an athlete known as his muscles, which are in conflict with the cell structures of which his brain is composed, one group will have a tendency to win over the other disproportionately in the course of his life work. Not only is there competition between a man's muscles and his brain, but different sets of cell structures throughout the body are engaged in ceaseless struggle for supremacy over each other. A fairly good "diplomatic" physiology maintains a balance between the claims of the different cell structures in such a way that no one set is allowed to preponderate greatly over another set, under ordinary conditions of health in man.

(c) In reference to the conflict of men with each other along lines of competitive might, we need at the outset a definition of might. It may be given as follows: The development of any peculiar natural attribute by an animal or plant to the point at which that particular attribute

allows the animal or plant to defy enemies. Examples: rose's thorn, goat's horn, man's moral reasoning. The winning men in nature's final programme will not be those who are mighty after the manner of brutes, but those who are mighty after the manner of men, if we may judge from the fact that man advanced beyond the brute proportionately to the degree in which his moral reasoning carried him beyond the brutes. Among the primates, man as a social animal, developed the defensive armament of moral strength at the same time that he extended his teeth and claws into the forms of sword and gun. In the contest between men, the winners according to natural law should logically be those who possess the greater degree of that moral reasoning attribute which is the peculiar characteristic of the evolution of the social primate, man. That at least seems to be the direction in which nature is working if we may take testimony from the witnesses of human progress since the days when extended tooth and claw are known to have been the winning attributes.

Historians like to go back to some one objective point, and to say that the causes for any

given war date from that time. This idea is academic and according to tradition among historians. Tradition is the greatest of guides for minds of the mean type, and the meanest of guides for minds of the great type. A transcendent mind finds no beginning of causes for war. The meaning of warfare appears to be clear enough. Nature is playing a game in which the strongest and best regulated animals and plants are to win. The strongest and best regulated are those which overcome their cell enemies, and their own faulty "political" combinations of internal cell structure, and then make successful application of a superior attribute like that of a long thorn, a long horn, or moral reasoning.

In what way do plants conduct offence and defence? Insectivorous plants catch insects. There are parasitic plants which send their roots through the bark of a victim and suck its juices. A plant which runs its roots below those of other plants may deprive competitors of water and food. Many plants secrete chemical root enzymes which poison the soil against competitors. Some plants outshade their rivals and thus deprive them of light. For the most

part plants content themselves with the development of defence measures against enemies, and almost every part of a tree or of a simpler vegetable organism carries armament which is recognised as such by the botanist.

What happens to winning plants and animals? Why will they not over-populate the earth? One natural phenomenon stands in the way and this is known as the senescence of protoplasm. In a simple cell protoplasm is constantly in a state of flux, being built up and broken down simultaneously in the course of life processes. This same procedure is occurring in all combinations of cells known as plants and animals. The time comes when any cell or aggregation of cells reaches old age, and the nutritional building up process is less than the breaking down process. All varieties and species of animals and plants, and all of their combinations are subject to the law of senility of protoplasm, and when any variety or species has reached its limitations of development, that species or variety of animal or plant must pass out of the struggle. Culture hastens the development of species or varieties of animals or plants, so that in the end all must reach cultural

limitations and then decline. The logical end of culture is the elimination of a race.

When the biologist speaks of senility of protoplasm and its consequences, the general public looks upon the question as one of too great profundity for its comprehension. If we condense the idea and then shorten up the phrase "protoplasmic senility," and call it "prosen illness" and state that such an illness comes to all organisms the subject will be brought within the reach of sociologists who may make use of it as a factor in their new computations.

Primal warfare between amœba and microbe was chemical in its nature, and fought with weapons known as enzymes. These enzymes continued to be secreted by all aggregations of amœbæ from the simplest to the highest animals and plants. Consequently all warfare is still enzymic in its nature. The idea of methods and weapons of man remaining under the direction of his enzymes cannot be fully understood fundamentally unless we keep clearly in mind the fact that man with his weapons and his sociology is actuated in warfare by a chemistry which subtends all of his policies.

According to the older physiology, an enzyme

is an organic chemical secretion which produces changes in other organic matter, in the interest of digestive and assimilative processes.

A newer physiology extends the meaning of the term to include in a general way the active chemical secretions from any one cell or any aggregated mass of cells of an organism. Working from this conception, we may deduce the conclusion that all organic activities are enzymic in their nature. Warfare represents one phase of natural organic process. An orderly view of the phenomena which end in warfare may be obtained by placing in alignment certain facts *seriatim*.

When we look at some one who has the good luck to be eating a juicy orange our own salivary glands are stimulated into activity. When a man believes that he perceives the need for movements of offence or of defence, two glands, situated just above the kidneys, and known as adrenals, are stimulated into an increased rate of production of their secretion, very much as salivary glands are excited by external impression. Adrenal secretion enters the blood current at once and is carried to the thyroid gland. The thyroid gland is whipped up by the adrenal

secretion into the production of an excess of its special secretion of iodin. An excess of thyroid iodin in turn increases the permeability of cell membranes of the entire body, and this leads to an increased degree of cell activity in general.

Increased cell activity of a man means that he is prepared to respond promptly to any given emotion by going into the sort of motion for which the emotion gave primal direction. Various chemical by-products result from enzymic action and act as poisons until they are eliminated from the system of an individual. Thus an individual who is jealous (primal emotion) is injuring himself chemically unless he eliminates by-products safely. Under the influence of a prolonged strain of jealousy, the individual loses his or her red cheeks and becomes pallid.

We can treat the effects of jealousy by administration of alkalies and water, combined with vigorous exercise for oxidation purposes? An actress who plays a strongly emotional part in a play may at that time be giving herself nephritis. A man who becomes angry injures himself chemically unless he takes steps for disposing of poisonous by-products. He should fol-

low some such daily formula as this methodically: "Mad from ten to eleven A. M. A full glass of alkaline water and a vigorous walk from two to three P. M." if he wishes to conform to our present knowledge of the subject. This bit of digression from the main scheme is for the purpose of fixing a mechanistic pattern in mind.

When responding to the feeling that is called patriotism whole nations go into a state of enzymic preparation for offence or for defence. Patriotism is a primal prejudice, flatly opposed to the intellectually conceived ideal of brotherhood of man. It was apparently given to man for the purpose of keeping him well assembled in herd form (nations) in order that he might struggle along lines of evolution in group units.

When a country is deeply impressed by an aroused feeling of patriotism the adrenal glands of its people pour out an excess of adrenalin, in the same way as their salivary glands would pour out an excess of ptyalin if they were watching somebody eating oranges. The free flow of adrenalin in the people in a nation causes the production of an excess of thyroid iodin, and this thyroid iodin opens up the entire cellu-

lar system for new activation on the part of these individuals.

A similar enzymic process occurs when two lower animals which are enemies are brought face to face with each other. A similar process occurs when the lowest of organisms inimical to each other are brought together. The lowest organisms have no tangible weapons with which to fight, but they secrete enzymes which are poisonous to each other. Higher animals have claws and teeth with which to carry out the biddings of enzymes from the cells of certain glands, each cell corresponding to a lower organism.

Although the highest animal through the aid of his intelligence makes an extension of claw and tooth in the form of gun and sword, he acts only in response to enzymic prodding from his whole mass of cells, just as the lowest organism acts with its single cell.

Some one will reply that in the case of the highest animal we are dealing with a question of the mind rather than with a question of body chemistry. That takes us back to look around the room for a good definition of chemistry, which has been described as "everything that is

going on." For an understanding of the mind and its expression in thought let us postulate a process similar to X-ray action.

The X-ray is nothing but an ether impulse caused by the whacks of an atomic cathode ray upon the ether, yet this impulse is in itself potent. We may postulate that when the cells of which a man is composed feel the need for movements of offence or of defence, his entire nerve system sends a neuricity impulse (a phase of electricity) toward headquarters in the brain cells. Each brain cell consists of a mass of protoplasm surrounded by a membrane which is less permeable than the central mass of the cell. A difference in electrical potential results because of the way in which ions become assembled on opposite sides of the cell membranes.

I need not go into what sounds technical beyond stating the hypothesis that this difference in potential causes a neuricity impulse to be sent out along the nerve fibres to those organs which will make particular note of the need for offence or defence (eye and ear, for example). An atomic impulse of any sort cannot be sent anywhere without beating upon the ether which

responds and reacts upon a brain cell which has sent out a neuricity impulse. The central mass of the brain cell becomes conscious of this ether wave beating. In addition, eye and ear, which have been ordered to make a report, send back messages to brain cells. These reports are stamped upon cell protoplasm.

In order to carry some sort of plain picture of a complex process we postulate that the ionic atomic impact from a stimulated brain cell upon the ether gives rise to an ether impulse which on the rebound possesses potency for stimulation of the brain cell. The cell responds to messages received from eye and ear as well as from the rebound of the original ether impulse. The conscious and well informed brain cell now sends a message along its wires (nerve fibres), and these messages go to the muscles and other organs which take part in the motion of offence or of defence, including the adrenal glands, which are ordered to whip up the whole organism.

Here, then, we have a simple postulate picture of what is called mind and thought, and their influence upon muscle movement.

Having proceeded thus far with the "first

primer" part of the question, let us take it into more elaborate relations with other questions. We may say that feelings like those belonging to sympathy, justice, and revenge belong to the ether brain-cell retroactions. During times of so-called peace, warfare is spread evenly over a large field of activities in any given nation, but does not lose its cubic contents, if we may employ a physicist's expression. It finds expression in business competition, in politics and in the shop, where there is endless fuss, jealousy and confusion, excepting as a manager is cruel enough to exercise effective control. The manager is moved by fear of cruelty aimed toward himself on the part of his employer. Warfare, without changing its cubic contents during times of "peace," busies itself until such time as a nation feels the need for offence or defence against some other nation. When this time for special action has been announced, the minor wars, from those of kitchen maids to those of socialistic debaters, are lost sight of, and the contending individuals and factions unite as brothers, combining their little war spirits for the purpose of putting conflict energy into one large war.

We are to hope that socialism and capitalism will never gain any great number of points over each other, because they represent two necessary opposing forces, belonging to the "warfares of peace." We must be allowed to read our newspapers and smoke our pipes comfortably while finding interest and amusement in the hot words which pass between fairly well balanced forces of socialism and capitalism.

Nations which are dominated by men of some one varietal hybrid type (Hohenzollern, Guelph, Romanoff, Hapsburg) develop ideals in nationalism which cement all ethnic factors in that nation into a group unit that is extremely strong for purposes of offence or defence. Each strong group unit develops ideals which are characteristic of the sort of mental expression belonging to the physical type of the dominant family in that group unit. Ideals belong so largely to the emotional set of faculties that conflict of one sort or another between group units (nations) is inevitable and belongs among the workings of a natural law.

Whenever a strong nation develops it depends upon the dominance of a varietal hybrid group. The formation of such groups occurs

among other animals and among plants. When the dominant varietal hybrid group reaches cultural limitations, it falls apart and the remnants of the variety make further varietal combinations. From among these fragments of dominant types arise various new combinations, some of which may represent closely the original dominant group. Eighteen hundred years ago the Roman Empire was characterised by its solidity and its universality. Eight hundred years later the rulers had failed to maintain unity and that great civilisation was lost in a large number of small separate domains. Here and there larger, stronger herds appeared, the larger ones tending to absorb the smaller ones until the Napoleonic Wars and the series of modern wars beginning in 1848 had a tendency to mold into shape modern Germany as a result of internal cohesive force aided by external coercive forces. The original unity of the Roman Empire was due to the conquest of other states by a single state of the group, this single state possessing military and political efficiency in higher degree than had been developed by the other states. Among the present varietal hybrid groups history has been repeated by the

conquest of various German states by what we call the Prussian State. Various elements forced under the rule of the Prussian State have been rather more rebellious than those which were grouped together under the Roman State. Those of us who have had the privilege of enjoying close social contact with the people in Austria, and in Hungary and in South Germany are fully aware of the inimical feeling of these groups toward their master. One reason why the Roman State was more successful in this respect was because of a greater generosity of government which resulted in better affiliation after conquest. Roman methods of affiliation with vassal states did not arouse the antagonism which Prussia has aroused by severe martial methods which have been employed for holding vassal states in chain, and which have sent German emigrants to generous governments in preference to their own colonies. At the time of the formation of the Roman Empire through force applied by a single state, there were no other competing civilisations like those which surround the Prussian autocratic state and its vassals to-day. In Greece the high development of different cities did not result in

the abolition of warfare and there was constant warfare between the cities. The time came when barbarians in mass force with tremendous onslaught could break up civilised Rome when it began to disintegrate as a result of senility of protoplasm and the approach toward cultural limitations. At the present time a number of high civilisations are uniting as the Greeks or Egyptians never could have united, and it is this union of powerful civilisations which desires to unseat the protoplasmically senile German government while retaining as fully as possible that part of the highly valued German people which retains a magnificent charge of potential energy.

I do not know which one of the Romans first picked up the idea that Rome had Divine Mission, but in Germany it was Frederick the Great who first seized upon the idea for his country. This curious phase of psychology belonging to the synap head* among rulers, also to a few very successful business men, and with an occasional neurotic religionist at the present time carries a considerable degree of weight among uneducated people. From medieval

* See page 111.

times up to the present day, the church when seeking temporal power or working for political ends has made a point of dickering with kings in such a way as to make them divinely appointed, provided that they behaved well in the presence of the Pope.

Dante in the Fourteenth Century, and Gioberti in the Nineteenth Century declared that the Romans and their descendants were chosen people, consecrated by divine decree. Conditions are very different in these modern times when an individual like the Kaiser chooses to declare himself consecrated, while surrounded by thousands of German materialistic mockers and by rival consecrated states. This digression into sociologic comparison of Rome with Prussia is not in truth a digression because sociology is a phase of physiology, physiology depends upon protoplasmic integrity, protoplasmic integrity depends upon the comparative degree of vitality in any varietal group.

The decline of nations is marked by a sign which we may call for convenience "the apædion index." There is a lessening of the birth rate commonly ascribed by sociologists to social causes. The biologist understands the index as

having a deeper meaning, something more fundamental. It relates to the physical inability of a people to bear fully normal families of children. Kaiser Wilhelm read the sign aright several years ago. He proposed artificial methods for opposing the working of a natural law. We know about Teutonic cultural limitations. The Maximilian Harden disclosures and the falling birth rate of Germany clearly indicate to a biologist what is now happening to that state.

A sapient world reading of these disclosures and of corroborative testimony in German medical literature made very little response. It compared notes with what it already knew of other capitals, past and present, and put the question down as sociologic without special significance. The question was protoplasmic and significant as handwriting upon the wall. The naturalist recognised it as meaning prosen illness of a state the protoplasm of which was becoming senescent.

The disclosures relating to perversions in upper social circles were simply a record of what the naturalist already knew. When highly cultivated pheasants approach cultural limitations,

the sexes sometimes approach each other in type, even to the point of the female adopting the plumage of the male, a more violent change than that of adoption of the plumage of the female by the male. The same thing occurs when cultural limitations are approached among the people of nations. Men become more like women, and women more like men, even to the point in some instances of adopting the dress of the opposite sex, in the same way as the sign occurs among pheasants. Sex warfare and the cessation of breeding as a logical consequence occurs among human beings as it does among pheasants. I mention the pheasants particularly because Nicholson has recorded this particular feature, although it is not different from similar demonstrations of cultural limitations throughout all animal and plant life.

The naturalist knows that Prussia need not be feared after the war, as the sociologist fears. The apædion index associated with other phenomena of decline give testimony showing that Prussia in the centres of population had reached cultural limitations about the beginning of the present century. When decline is under way in the representative centres of any nation the

movement is rather steadily downward. Historians will write of Prussia that was, in the same way as they write of Rome that was. When there is a rapid increase in the wealth in any country and corresponding financial ability to raise children and when this movement is accompanied by an actual decrease in the birth rate, a wealthy country then begins to follow Rome in decline as a natural phenomenon. The expression "fewer and better children" does not represent a logical sequence. Taken in the meaning of a systematic elimination of the unfit there would be a movement toward a higher plane in citizenship on the part of the few. Practically, following the law of cultural limitations, the few are actually now in evidence with too many decadent features of the sort belonging to cultural limitations. Brill has furnished important data bearing upon this point. The apædion index does not mean that high mental gifts are to disappear, on the contrary a nation might go down with all of its best mental flags flying. A parallel is found in the rose which becomes more beautiful when it "doubles" by increase of petals at the expense of stamens.

The student of the subject of warfare will observe that the desire for warfare appears to be so fundamental that men are prone to take up arms for slight cause or for no well defined cause. This morning's newspapers tell of the advance of soldiers upon Petrograd, and of a large number of armed Bolsheviki who have gone out to meet them. The shooting has not as yet begun because neither side understands just whom it is to shoot or why.

Let us remember that because of the nature of man, he is continuously engaged in warfare. Sociologists tell us that warfare is due to state nature, rather than to man nature, but man makes the state and allows it to give expression to his own nature. The state is a corporation to be sure, and corporations are said to have no souls.

Frederick the Great said that wars would occur about once in five years. He probably referred to wars of European interest only. In the past fifty years of my own observation they have occurred rather more frequently than that. If the sound of all wars were brought within one hearing distance, they would make a continuous hum like the droning of a great wheel

in a shop. My own memory of conflicts extends back clearly for about fifty years only, but during that time we have seen our Civil War, the German-Austrian, Franco-Prussian, Servo-Bulgarian, Turco-Russian, Spanish-American, Anglo-Boer, Greco-Turkish, Russo-Japanese, Italo-Tripolitan, Balkan, and the present European war. That would make the incidents rather less than five years apart, and would leave out of our calculations a much larger number of lesser wars belonging to more distant countries.

The doctrine of struggle belongs then to the philosophy of one side of the question.

Opposed to the doctrine of struggle in nature, we have the other doctrine, that of dependence of one organic form upon another organic form. These two doctrines represent forces which are observed to be everywhere opposed to each other, in accordance with the method of court procedure under the *codex* of natural law.

During times of peace politicians do not generally approve of each other. Women do not generally approve of each other. Would there be less of warfare with women in charge of na-

tional affairs? Women are prompt at going into action in the interest of justice and right. Acting from such conviction women are now expressing intensity of feeling in a corresponding degree of work, but upon both sides at once. They are eagerly taking part in practically every feature of the war, from the skilful promoting of propaganda to zestful overtime labour in munition factories, and upon both sides at once. Irrespective of the question if there would be less war with women in charge we may remark that women deeply convinced of the validity of their premises in any subject are more indignant than men are when compromise is proposed—women are inclined to look upon compromise as being dishonourable, a descent from principle. During times of peace army officers have to challenge each other to duels, and to swing violently about the periphery of scandals in garrison towns in order to give expression to their internal feelings. The term "peace" is a colloquialism relating to the subject of intervals between warfares-by-arms. Mr. Ford gave the world a kindergarten object lesson worthy of its cost, and a lesson which will serve for all time, when he shut up a lot of

pacifs on shipboard for a week where they could not escape from each other. Pacifs not in close contact with each other, but united in sentimentality, make warfare upon braver people who are trying to protect them and their homes. In America, they have done their best to serve the purpose of Germany from a pulpit that is standing upon the wrong side of the world. Their views would be very acceptable to Americans were they to bring their warfare against the American home to bear upon the vital Prussian end of the question, and not upon the home defender end.

Assuming that warfare of one sort or another has been and always will be continuous in one form or another because of evolution urge, we may note with satisfaction that progress is actually inherent in human society. Since mediæval feudal days when no man's property or life was secure we have learned with satisfaction that the periods of peace are becoming longer under conditions of civilisation. That is our hope and our inspiration. Nowadays with greater degree of security for life and property, nations will be allowed longer and longer periods for reaching cultural limitations and

then going into decline finally, according to the laws of protoplasm.

In advance of the Great Double Invasion* German women in every little town were saying against each other what they are now saying en masse against the enemy. In France politicians were accusing each other of about as much knavery as they now apply en masse to Germany. There is a somewhat increased expenditure of force when the warfares of peace cease and the people become united against a common enemy. The reason for that is because under the stimulating influence of a great fear more of the internal secretion of the adrenal glands is poured out, stimulating the thyroid gland which in turn activates the muscles and sets into motion the complicated machinery belonging to body processes generally.

* See page 117.

WARFARE AND HUMAN DEVELOPMENT

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TREITSCHKE says that wars "will ever recur as a dreadful medicine for the human race." This is true from a sociologic point of view in the sense that it relieves a race which has been retrograding in its germinal inheritance from the burden of its social inheritance. The naturalist replies that war dosing will continue until such time as preventive state medicine takes its place. War medicine will then fall behind the times, very much as dosing against microbic warfare (ordinary illness) is now falling behind the times, being replaced more and more by preventive medicine. We shall exterminate "microbic governments" or render them harmless—this last we are now doing to Germany. The Hague is to be the wise old doctor.

What have wars really accomplished up to the present time? The earliest wars in history did two things. In the first place they pre-

vented overpopulation of the earth before intensive cultivation of the soil had prepared the way, and had made the world ready for a larger population. Incidentally, it may be well to note that China had better agricultural plans in some ways during and since the time of the Emperor Yu, three thousand years before Christ, than Germany or Great Britain have to-day.

Secondly, in the early wars in which individual combat and individual endurance were the important factors war had a eugenic effect in that the weak and unfit were eliminated and the more vigorous protoplasmic elements were given greater advantages of development.

In modern wars this is not the case. On the contrary we have mass destruction of the most fit in the combatant class, and an impoverishment of stock due to poor nutrition of large numbers in the civilian groups. Because of those who acclaim war as a biologic necessity, as the great inhibiting influence of decay and as an important factor in the development of man, let us ask this question which is basic: can any phase of warfare, which destroys the best breeding material, be found to result in any mutational or revivifying stimulus upon the germ

plasm? With the mechanism of heredity in mind no answer is needed. In modern warfare there is not even the elimination of the unfit to be considered as a matter of negative eugenics, on the contrary, through the rigours of war, mass accidents, and extravagant tissue waste resulting from abnormal oxidation due to an excess of thyroid iodin poured out for purposes of increased fighting motion, the previously fit are rendered less valuable for breeding material. If anybody feels that any survival of the fittest is to be looked for as a result of this present war, he may go to Flanders and there find the fittest—underground.

War should be properly classified with those extrinsic factors of development of the individual which can in no way alter the race. Wars may change and even destroy the social, religious, and moral inheritance of a race, but this affects the development of the individual, a phenomenon which does not modify the development of the germ plasm.

The social evolution of the race with its increasingly complex demands may so far outstrip the germinal inheritance of any group that such a group may find reaction to these complex

stimuli becoming a burden. War may then appeal to this group as a remedy. It may be assumed that such was the case with Prussia. Prussia is now going the way that all previous great civilisations have gone. They were formerly destroyed by barbarians after the influences of decline had made themselves manifest. Not enough united barbarians were left in the world to deal with Prussia, excepting in Russia. Russia made its threat. Prussia, frightened, then committed suicide, a favourite method with the coward and with the ill who have delusions of persecution like those of the Crown Prince. Prussia now floundering about in death throes is upsetting other civilisations, by scattering their social inheritance and bringing the terrible dysgenic factor of reversal of selection as a result of modern warfare into play.

Physical decline and its corollary moral decline occur rapidly under conditions of peace—yet still more rapidly under conditions of war.

The pragmaphile squarely facing this fact and standing erect without dodging in its presence will remark that if physical and moral decline are bound to come to every nation anyway in obedience to laws of protoplasm it will

be well to ask modern science to move up the top weight of the metronome.

Wars have aroused the spirit of race consciousness in such a way as to bring about cohesion of race elements, thus allowing each variety or subspecies of man to proceed along its lines of evolution in more compact form. There has been better natural selection by each group of well developed "state organs" which are continuously being added to the "organism" that we assume will eventually become the United States of the World. Warfare has condensed varietal groups for better mass unit work, but chiefly because these had been previously disjointed by warfare. Left to itself a varietal hybrid group of man would remain assembled for the reason that a kind of deer or a kind of grape remains within certain natural bounds. A nomadic Arab tribe undisturbed would have no desire to make its way to Siberia. Depending upon wars for the purpose of obtaining the spirit of race consciousness is very much like the quaint legendary Chinese method of burning a house down in order to secure the delicious roast pig. Only a poor appreciation of values would espouse a cause which arouses

consciousness of itself (race) by a method which would impoverish and even destroy it.

Wars have spasmodically advanced civilisation by allowing superior intelligence to win over barbarian influence, and then imposing the superior social inheritance upon the conquered. Barbarian influence has taken its turn at winning from time to time, but chiefly over states or tribes that reached cultural limitations and were showing moral decline, moral decline being a sort of index of physical decline and to be differentiated from low original standards.

The immediate effect of warfare upon the individual may be tonic. Psychologists tell us that ordinarily a civilised man does not employ more than from one-tenth to one-third of his brain capacity in daily affairs. Under stimulation of any sort, he may increase this up to full capacity without doing himself any harm. During times of stimulation by active warfare, the people of all interested countries employ more of their brain capacity and consequently more work of many kinds is actually accomplished, the new inventions in particular remaining as permanent assets.

When warfare-by-arms is under way, a re-

versal toward primitive conditions leads to attacks by the people of any country upon their own people, very much as minor discharges of electricity take place between different metallic objects in the presence of a thunderstorm which causes electric instability of neighbouring objects. Thus the commercial war profiteers prey upon the people of their own countries and this process is not confined to large conspirators. The smallest retail dealers become involved in the spirit of attack upon their customers. If the price of a whole side of leather goes up a dollar or two, a shoemaker adds a dollar or two to the cost of a single pair of shoes, on the excuse of justification based upon the increased cost of leather. One of my acquaintances at a railway station in Arizona in 1917 found that Indians were charging twice as much as they had previously charged him for pine nuts. He asked an Indian the reason for that, and the Indian replied, "Wah!" As the nuts were collected chiefly by pack rats, which are not drafted, and then stolen from the pack rats by Indians of a tribe not subject to draft, this Indian explanation may stand as an object lesson on the point that warfare-by-arms excites

attack between individuals who are not directly concerned in the war.

One of the truths which Treitschke missed by an inch, relates to his statement: "More frequently to be observed in modern history are the momentous consequences of an exclusively social existence. A nation that lives for nothing but these social desires, that wishes only to become richer and to live more comfortably, falls a complete victim to the baser natural instincts." He recognised a fact, but was not student enough to trace the fact back to premises leading toward a right conclusion, and to observe that he was speaking of the law of cultural limitations.

Treitschke believed that the world would be deprived of its heroes, excepting for war. He does not know of the heroism displayed by the scientist who comes forward with a new idea and withstands the attack of thousands of his peers single-handed. He apparently does not know of the heroism of the firemen or of the policemen in their daily rounds. Galileo was a greater hero than the German officer who cleaves the head of the father of five dear little

girls, because that man does not agree with him in politics.

Treitschke says: "The second essential function of the state is to make war. That we have so long failed to appreciate this is a proof how effeminate the science of the state as treated by civilians has finally become. In our century, since Clausewitz, this sentimental conception has disappeared; but its place has been taken by a narrowly materialistic one, which looks upon man, after the manner of Manchesterdom, as a two-legged being whose destiny is to buy cheap and sell dear."

From the biologist's point of view, this "narrowly materialistic view of man" was giving Germany billions of dollars worth of property in South American countries, to say nothing of other countries. And these billions of dollars were for what purpose? Among other things they were employed freely for the purpose of developing German science about which there was nothing effeminate or sentimental, but which was placing the golden statue of German science in the social parks of the world.

Materialistic occupation is precisely the sort that has conducted the plant from a single cell

to become the grand sturdy oak, with its sap channels ensuring mutual interdependence between all organs, with defence measures for protection of the zygotes within its nuts, and defence measures for the protection of the hearts of its winter buds. It is devotion to materialistic occupation that has conducted man from the single cell up to the formation of man equipped with his intellectual defence mechanism. When offence mechanism is employed by preference, in response to synap head biddings man loses, for the reason that he is playing a Jack when he should play his Ace.

The statement that war is an "*essential function* of the state" must be carefully considered. Is it really a function of the state as purpose or only as defence? We have a parallel from which to form judgment. The naturalist, familiar with the plant world and with the animal world, finds himself replying that war as an aggressive purpose is by no means a function of any state, unless a given state openly acknowledges classification among predaceous organisms. In that case it will be treated as the gamekeeper treats vermin. When considered in the light of defence, war does become a func-

tion of the state. Predaceous individuals and predaceous tribes abound in the world, but the only predaceous state at the present time is the one admitting that it holds Treitschke's license to lie and to say that it instituted a war of "defence," planned to begin in 1913, but finding better opportunity in 1914.

Treitschke received profound attention in Prussia for the reason that he taught what the people of Prussian temperament wished to hear, and not because he gave good information.

As a final consideration in this relation we may assume that warfare which kills does not belong to man as a persistent or final method. The naturalist would base that belief upon the fact that man is the only mammal engaged in killing his own kind. The frankly predatory animals prey upon other species. Were they to prey upon their own kind, it would be against laws relating to preservation of the kind in nature's struggle between competing kinds of animals and plants.

NATIONS

NATIONS

A NATION represents some one variety of animal in particular, although that nation may contain several racial elements. Some one racial element constitutes the dominating variety. We are to remember that when any variety of animal or plant is subjected to cultural processes it finally expends its protoplasmic energy and goes into decline. For object lessons let us take the Wilson Strawberry, ancient Greece, the Morgan horse, Rome, the peachblow potato, Egypt, and the Newfoundland dog. Here we have a definite object lesson relating to varietal organisms which have reached cultural limitations and then declined.

In accordance with the law of continuity applied to everything in nature, nations are similar to varieties of plants. Nature retains her great vested fund of protoplasmic energy in a race. Mutant forms emerging from any race, from time to time, expend their special loans of

protoplasmic energy rapidly and then disappear, while the racial mean type persists. Protoplasmic energy runs out of a species more rapidly than it runs out of a genus, and a variety loses energy more quickly than it is lost to a species. Nature places many checks against the exhaustion of race energy, but she allows nations (varietal hybrids) springing from any one race to make cross combinations exhibiting various degrees of power. Durable nations are composed of varietal hybrids. Specific hybrids on the other hand populate the turbulent states. Mexico is largely populated by specific hybrids: Aryan (Spanish) x Mongolian (Indian). In the absence of an external compelling force we may anticipate that a series of short, sharp revolutions will occur for centuries to come in Mexico, excepting when some remarkable mutant like a Diaz executes aspirants for domination who ask questions, and then makes inquiry into the nature of questions subsequently to the execution of questioners. Specific hybrids of *Homo sapiens* have been under observation by biologists for a long time in the examples furnished by Eurasians. Specific hybrids among men do not appear to carry a "cenesthesia of

similarity" which allows them to unite well for purposes of mutual protection in established government. As violent variants, they expend protoplasmic energy individually, explosively or indolently, and not according to durable mean-type method. The educated men of Mexico are as brilliantly and charmingly civilised, as the uneducated classes are indolent in the other extreme. A strong dominant mean type of citizen does not belong in biologic category to Mexico. The desire of individuals to conquer will be stronger than the desire of a whole people to govern.

A varietal hybrid type of man, on the other hand, and his prototype congeners (Guelph, Hohenzollern, Hapsburg, Romanoff), form dominant groups of people for the brief period of a few centuries, and having engaged successfully in struggle, pass on to the period of senescence of protoplasm and then disappear, to be replaced by other strong varietal types which have sprung from racial protoplasm. We are to keep in mind the difference between varietal and specific hybrids when anticipating the life history of any cultivated plant or animal including man.

A nation of people fitted for civilisation passes through Eras of Three E's, corresponding to the development of a variety of cultivated plant. The first E stands for establishment (force of arms or of diplomacy). The second E stands for expansion (analysis and development in science). The third E is that of exhibition (art and literature). Then comes decline. The history of a cultivated plant may similarly include establishment after struggle with competing plants, and aided by the gardener. High degree of development of the plant comes next, and finally there may be exhibition of double flowers, and the lineage of that plant is ended. The reason why cultivated nations come and go like varieties of cultivated plants is because both are composed of protoplasm and must follow the inexorable laws of protoplasm.

The nature of decline has been fully revealed in natural history. Each varietal type of man assembled in social aggregation in the herd that we call a nation goes on to cultural limitations and declines, to be succeeded in turn by new varietal types thrown out from the main stock of racial protoplasm. The soil occupied by any

one varietal type is successively occupied by waves of nations following one upon another, each in turn rising and falling like waves upon a beach in response to the working of the laws of juvenility and senility of protoplasm.

Schiller with the vision of a poet looked over the head of selfishness and in one of his letters written in 1789 states: "The most powerful nation is but a fragment and thinking minds will not grow warm on its account, except in so far as this nation or its future have exercised influence on the species."

The German government did exercise marked influence on the progress of the species, and thinking minds were growing warm on its account, until the unequal expansion of the military clique in the fragment burst it apart, causing a pitiful loss of momentum and velocity. The great intact fragment which had been travelling through the high skies was the Germany of Goethe. The meteoric dust is the Germany of William the Second. What the world willingly mistook for a star was only a meteorite after all; a fragment travelling at high speed in the great cosmos of civilised na-

tions of to-day, and containing its own element of disintegration.

At this point we may ask, of what use is a nation anyway? Apparently nations represent nature's effort at trying out different varieties of organisms in order to establish certain types best fitted for conducting evolution. Nature's eventual purpose belongs to the great purpose question which is out of our reach. Because of the gregarious nature of man he assembles in herd form, calls his herd a nation and then for purposes of expediency experiments in various kinds of government. Governments are all experimental and like other educational problems, not static. Furthermore a government that will satisfy one herd of subspecies of man will not do at all for another herd. American Indian tribal government could not be adapted for Tokio, Japan.

Certain leaders stand guard instinctively over any national herd, very much as one crow remains on watch while the other crows are feeding. Kings, queens, and presidents are guardian crows. The reason why sovereign queens have made such a good showing in comparison with kings furnishes an argument in favour of demo-

cratic rule by numbers. By that statement, I mean that the sovereign queen has commonly surrounded herself with a number of well selected advisors who have unitedly given direction in the interests of the state. The king, on the other hand, has commonly been under the domination of some one irresponsible woman. The idea of a sovereign being under divine guidance is not laughable to those of us who are familiar with the methods of educational development of the poor devil of a prince. His footsteps are dogged by tutors, his thoughts are checked up in squares to fit the conventions, and later on he is surrounded by men who fawn upon him for reasons of personal profit to themselves. It really is a depressing spectacle.

Gregariousness in its phase of requirements for leadership is expressed in different degrees by different kinds of birds and animals including man. A flock of wild geese immediately acknowledges a leader when starting off in flight. A flock of sheep without a leader begins to disintegrate and individuals soon go astray. A flock of starlings on the other hand goes about in loose socialistic form; the same is true of a family of chickadees, yet each mem-

ber of the family seems to know where all of the others are when travelling in one general direction, more or less widely separated in the woods. Among herds of men the German herd has shown in highest degrees a trait that is common to all men, even in nomadic tribes, a desire to lean upon authority and leadership. Infant individualism, avoiding leadership, selfish in its nature and belonging to a certain phase of socialistic thought, finds the world unprepared to accept that single unit power for good. Among people who are dissatisfied with their leaders, there is the forlorn resource of depending upon themselves or upon some sort of a god. The Germans made a god of their Kaiser by metaphysical process and then idealised him for the same reason that heathen people make a wooden god and then aim all of their best instincts at what the wooden god is supposed to represent. The German herd has been notable for its dependence upon learned authority whenever that was procurable, or for leadership in any event. A group of twelve German families settling in colony form upon a western prairie immediately proceed to elect one man as leader and to obey him, even though he may not be

superior to other men in the colony. This German fondness for moving by authority constitutes one point in the psychology belonging to the present war. The Germans were rapidly on the way toward gaining control of the entire world because of their methods in commerce, but these methods in commerce depended upon individuality. The Germans were dissatisfied with this variety of success, and wished to succeed by authority because that belonged to their habit-thought; habit-thought being one of the most powerful influences of individuals separately or in mass unit formation.

The question often arises, "Why are the hereditary rulers of a people so different from their people?" We know that Czars have not furnished those great Russian minds which the human world has eagerly claimed for its own. We know that despots among nobles of the Polish Kingdom were not the Poles who have warmed the earth with their talents. We know that the Hohenzollerns have won the sort of respect which belongs to the thorns of a rose, while the beautiful flowers of Germany were unfolded to an admiring world by other Germans. The sociologist has answered the ques-

tion at great length including various documents relating to decadence due to inbreeding, but he always leaves us with the sort of undefinable feeling that he has not explained satisfactorily. The naturalist replies by saying that the answer includes three separate and distinct factors in the problem:

(a) Crosses between the members of ruling families of different varietal hybrid types take place for political reasons.

(b) Members of the ruling class belong to families which have approached cultural limitations.

(c) The politician with a type of mind different from that of the scientist or of other elements among the people has exercised his peculiar function. This latter factor is not peculiar to hereditary ruling groups, but simply intensifies the influence of factors "a" and "b" which are fundamental to a knowledge of the subject.

Factors "a" and "b" would suffice for placing the hereditary ruling class quite apart from the normal mean-type people of any nation. For that reason either democrats or interna-

tional socialists will represent the real people in a country of the civilisation of to-morrow.

There are dangers in leaving the management of affairs in any country to leaders. The reason for that is because responsibility rests too often with busy men who have no time to look after their leaders. If the latter are politicians of the irresponsible sort, they may lead the country where it would not wish to go, and where it would not represent the real feeling of the people. When we broke our treaties with the Indians, it was not because the people of the United States wished these treaties broken; as a matter of fact there was very violent objection on the part of our best people. The Indian treaties, however, were managed by the politicians. After experience with autocracies in which an autocratic ruler may run amuck among other countries, after experience with democracies in which substantial business men leave their affairs to scheming politicians, we may eventually have a series of world governments with a trained business man at the head of each nation. Originally, teachers found themselves rather helpless when managing education questions of a large number of people. After that

the method of employing clergymen, working with the help of the Lord, made one step in advance. Now we have arrived at the stage where a business man is the one best equipped to manage the affairs of a university. As a university represents in miniature the social method of a country, so various socialistic groups represent various governmental methods. In each socialistic group there is a leader surrounded by ambitious other men who wish to take his place and become leaders. Internal warfare is therefore going on between members of each group and furthermore various socialistic groups come into conflict with each other.

Modern governments are big business corporations. Armies have become the guardians of economic corporations of the state very much as a miner sits upon his heap of nuggets holding a revolver in each hand. Every business corporation known as a trust, of the sort that is built up in democracies, would be gratified to have at its disposal an army and navy. Trusts often have at their disposal certain legislators occupying high position. In a concrete autocracy, and in a discrete autocracy as well, poets like to speak of industrialism as peacemaker.

As a matter of fact there is warfare between the workmen and the floor boss, between the floor boss and the superintendent, between the superintendent and manager, between the manager and owners, between the owners of that corporation and of other corporations, between these corporations and the laws of the state, between the laws of one state in conflict with the laws of another state, and between a country like Germany in a competitive struggle with Great Britain. Industrialism instead of being a peacemaker is an enterprising war maker in every important phase of its presentation and in harmony with the laws of evolution. The state which maintains an army for offence is not different from the corporation which engaged the gunmen to kill Baff, the rival poultry dealer in New York. Kaiser Wilhelm is a murderer in the same class with the men appointed by a combination to employ the gunmen for killing the poultry dealer.

Nationality as representing herd instinct of racial origin with the dominant people of a nation may at times be less powerful than certain external influences. The Swiss, for example, with tripod racial feet standing upon social

history and natural history, are deeply imbued with historic sense and with a romantic degree of attachment to the mountains reaching to heaven and to the sublime beauty of their rivers. They will have a tendency to remain durable as a nation, firmly attached to their soil and fruitful in the pride of their achievements.

The ideals of a nation like those of the United States are of little avail unless they are adaptable to the full needs of the time. When predatory nations are still about, the people which inefficiently carries out means of defence will eventually acquire one of the stern lessons of history. England, Spain, and Prussia from 1804 to 1812 with their fine aspirations were in danger of complete submersion until the times developed Wellington, Scharnhorst, Gneisenau, and Blücher. Until these leaders were given position, the fine aspirations and enthusiasms were unprotected and of little avail.

At the moment of writing, Russia torn asunder by conflicting socialistic groups, is likely to split into separate states along lines of racial instinct unless the combination of a Victor Emmanuel, a Cavour, and a Mazzini is brought about for the purpose of making the sentiment

of nationalism stronger than the pull of racial herd instinct. Various Slav peoples possess the natural trait of lack of interest in firm cohesion. From the standpoint of natural history, we might readily enough assume that Great Russia will never again be Great Russia, because of the injury caused to nationalism by the faults of Czarism. A free Russia will probably mean a Russia of smaller states free to attack each other until some one dominant group succeeds in uniting the people of the separated Russian states, and assisting them toward the great sap-channel organisation of the world state. The constructing of a constitutional monarchy would apparently make a good intermediate step, but at the present moment there is some danger of Germany taking charge of Russia due to vulnerability caused by Maximalists.

During the course of experimentation in methods of government man has developed two distinct types, autocracies and democracies. One has about as many virtues and faults as the other. In democracies, power is commonly given over into the hands of politicians who are not responsible in more than a nominal way to

any one guiding head in the course of daily affairs. Politicians set up clan plans of their own and frequently defeat the wishes of the public. This political method of discrete autocracy is quite as divine in origin as the divinity of the concrete autocratic ruler, if we observe that God created a devil capable of thwarting His own wishes. The democratic republic really consists of a large number of discrete political autocracies as opposed to the idea of concrete autocracy demonstrated in a government like that of Germany. One striking difference between autocracies and democracies is this; in a discrete autocracy the people do not unite readily for offensive and defensive warfare-by-arms; they do, however, remain rather free to overthrow the leader of whom they disapprove at almost any time. This may be true of concrete autocracy as well, witness the Russian revolution. For the most part, however, a single autocratic ruler is given dangerous power to precipitate offensive and defensive warfare, and this marks an important difference between autocracies and democracies.

The chief difference fundamentally between the structure of autocracies and the structure of

democracies is the difference in their construction of ideals. In a democracy the ideals of freedom, of laws and of justice are elevating, even when one is living in a fool's paradise, and where people turn their affairs over to discrete autocracies, representing smaller mass unit forces. Such forces are commonly opposed to each other and to the interests of the state, which represents a single unit of power. On the other hand any one who has lived in Germany has become familiar with the undercurrent of disapproval of autocratic government. The autocratic state may do about what it pleases with its slaves. Because of the fundamental difference in ideals between concrete and discrete autocracies, the two cannot exist together in harmony. The world has experimented abundantly with autocracies. It is now putting democracies through the laboratory for the purpose of weeding out their synap head inconsistencies, and we cannot foretell what forms of government will be under way in the next century.

"L'etat cest moi" said Louis XIV.
"The state is We" said the anarchists.

The conception of the state as representing social order belongs naturally to a gregarious species. The idea of sovereignty of the state, however, according to biologic laws, will gradually disappear in accordance with the sap-channel idea.

German collectivism and American individualism are opposed to each other. The first is corrected by other nations when it oversteps bounds. The second is corrected by competing individuals. The president of a great trust company might administer American affairs better than they are administered by city politicians, who so frequently consist of discards from other employers. Under present method in this stage of experiment with government there will be continually the same struggle between state versus the individual or boss versus the individual.

There is much to be said for a concrete autocracy like that of Germany as opposed to a discrete autocracy like that of our United States. There is no doubt that the welfare of the individual is better served by other individuals under an efficient controlling government like that of Germany, provided that the controlling

element is guided by the right spirit. In our United States political bosses often arrange discrete autocracies under supervision by men who are not representative of all that is best for Chicago or Philadelphia for example.

Democracy has always meant less interest in foreign policy, but in times of stress it has adopted autocratic methods for the purpose of self-defence. Autocratic diplomacy has led Germany into a war in which she is faced by some three-fourths of the whole civilised world. Theoretically, democratic diplomacy places all responsibility where it rightly belongs—with the people; practically, everything else relating to public interest has been discussed in the open, but up to the present time, foreign policy has not been placed before the people of discrete autocracies more freely than it has been placed before the people of concrete autocracies.

During a period of forty years, the German autocracy devoted so much time, heart, thought, and money to the development of its army that more than three years were required by the Allies for developing a better one. In all probability the Allies would never have developed a better one, excepting for the reaction aroused

by German law-breaking, on the ground that might physical was a greater force than might moral. It was not law-breaking according to the German idea of sovereignty of state, but law-breaking according to the higher moral purpose of the sovereign group of United World Families. An outlaw receives treatment as such, no matter whether it be an individual, a business corporation or a state.

Our family of nations on this earth contains an outlaw member. Can we repress that outlaw member who holds that no morality can be higher than the interests of its own arrogant state. If might is right, I shall take my neighbour's farm away from him when God helps me to become strong enough for that, and when taking his farm away, I shall exclaim in the words of Kaiser Wilhelm, "Forward with God."

This idea carried to its logical conclusion would result in there being but one man left in the world, and he with a wife who would require to be killed in the interest of permanent peace.

Instead of the Treitschke idea, we may inculcate the Darwinian principle of mutual depend-

ence, when it comes to a question of prognostication concerning man's destiny and a peaceful world state.

Some of the neutral peoples of Europe, neutral by painful force of circumstances, offer as an excuse the idea that some neutral countries must be left to take charge of mediation for peace when the time for mediation comes. From the American viewpoint, there is perhaps the feeling that very little mediation will be required when an outlaw government is forcibly placed in chains.

In order to meet conditions of warfare, a successful democracy is now obliged to put its affairs into the hands of leaders who are also autocratic in their methods. If an autocratic government becomes an outlaw because its leaders have reached cultural limitations and exhibit phenomena of decline, the people who are subject to that government may be injured temporarily by a sort of catalysis. The German people excepting in their centres of population are still ascendant in a protoplasmic way, and we shall anticipate their return to normal activity when the morbid spell has been relieved by the unseating of their decadent leaders.

A faithful shepherd dog, kindly and efficient, sometimes comes under the influence of other dogs in such a way as to revert to primal instincts. He harks back to the jackal ancestor, and becomes a sheep killer because of the influence of propinquity, propinquity being one of the three greatest social forces. Even the German socialists became yellow sheep killing jackals through their affiliation with leaders bent upon illegal procedure. They responded to the call of the atavistic Kaiser. The naturalist realises the helplessness of these people under the influence of awakened primal instincts and his feelings are more of pity than of blame. Perhaps his feelings toward the Kaiser are more generous than are those of the sociologist. He knows that Kaiser Wilhelm has anatomical stigmata of decadence for which he is in no way responsible. Notwithstanding hereditary physical defects and their mental accompaniments, the Kaiser as a versatile genius had been so magnificently constructive that all Germany knew who had carried the Empire toward a place in the Sun. When the moment of weakness came and the Kaiser yielded to the associated moral degenerates who forced his hand,

the German people followed their idol from perihelion to aphelion, because he had previously justified his position as an idol.

Frederick the First picked up the old jewel of an idea that he was divinely appointed, and this idea was handed down along with the tapestries and crown jewels to successive heirs to the crown. The humour of the situation likely enough appealed to the angels and they doubtless have had many moments of merriment when observing German materialism playing shuttlecock with the divinity idea, assuming that the angels are no longer finprods,* even though their wings are shown by artists to spring anatomically from their scapulæ.

In relation to divinity of the Kaiser, Delbrück is reported to quote Harnack as saying that one of his minds told him that the idea was nonsense. The other mind told him that if the Bible was inspired, the Kaiser might readily be inspired from the same source, and it would be well to act upon that assumption.

The idea of divinity of kings causes lines of demarcation to be made personally by certain kings who do not approve of other kings. This

* See page 113.

divinity idea is an interesting bit of psychology and we see it demonstrated sometimes among successful business men, particularly among those who have not had a liberal education. The man who makes a great fortune sometimes gets to feel that he must be under the guidance of some higher power, having little trust in the capabilities of one whom he knows so well personally. He gets to feel that some unseen hand has guided him toward success, and arrives at the conclusion that he is probably under divine guidance. I have observed this attitude of mind in two or three of my acquaintances and presume that it is not very different from the feeling that comes to some very successful rulers. The question as to whether this feeling is apropos of the selling of large quantities of something to eat, or of the shooting of a lot of competitors has no bearing upon the final crystallisation of the gem of the divinity idea. German professors winked one eye at the divinity idea and said, "Never mind, it serves a purpose." The Czar of Russia was arranging a divine mission camouflage at the same time. These two divine agents came into violent conflict with each other, thereby presenting an ob-

ject lesson that physicists had told us could never be presented, namely an irresistible force coming into conflict with an immovable body. The German philosophical teaching that might is right had captured the imagination of the war clan which had not fully realised that if might is right one must be mighty careful to apply it to the right victims. The group of Allies decided that right was might. This required a definition. The definition of right from the anthropocentric standpoint may properly include the idea of interest to mankind as opposed to the interests of any one state. The democracies are now fighting for the conception of right for mankind. I would not go so far as to say that the democracies now fighting for this ideal under the influence of evolution urge have always been very good morally. They have tacitly put up with corrupt governments of their own which have in turn protected corporations and politicians engaged in lawless rivalry. England will go down in history carrying the disgrace of the opium war. Brave Belgium will not emerge from the shadow of its rubber scandal. France must ever remember that the Jacobins in the French Revolution were French

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people. Our United States has taken the lead in the breaking of treaties. We have broken something like four hundred Indian treaties, to say nothing of the Canal Zone affair. The history of our own Southwest is not detailed in school histories. We all know official corruption to be a synonym for Russia. Let us quote a line or two from Milton concerning Italy:

"Slain by the bloody Piedmontese, that roll'd
Mother with infant down the rocks. Their moans
The vales redoubled to the hills."

This, however, all relates to past social history and not to the natural history of progressive development of man's special attribute, his moral reasoning.

Nietzsche's doctrines of the Superman and the Will of Power end logically in the German adoption of another metaphysical system, that of the militarism of Treitschke and von Bernhardi. This in natural sequence of events came into conflict with those laws of morality which stand higher than obedience to a sovereign state.

Treitschke says, "The state has no higher judge above it, and will therefore conclude all its treaties with that silent reservation." This

gives diplomats a license to deceive. They may trick and lie as they please upon a treaty basis.

It was Machiavelli who first expressed the idea that when the safety of the state was at stake, the purity of the means employed for action need not be called in question and morality should be trodden under heel. As a matter of choice the German diplomats selected this kind of testimony from past history as a basis for present day action.

As opposed to the state of Treitschke, the state of Kant is one in which the selfishness of individuals is to be suppressed and they are compelled to work for the general welfare in the interest of order which is the aim of the state. Individual whims must submit to the will of the community. The state must be prepared for the expression of force, but it does not exist for the expression of that force. The state of Fichte is one in which all citizens including their rulers are obliged to construct an artistic institution which raises men above their natural level in order to fulfill the destinies of the race.

England includes the idea of sovereignty of state because that form is convenient as a hat

rack for purposes of hanging up useful things. England is charged with saying one thing and doing another. This relates to ideals rather than to hypocrisy. It means that English people do not as a whole approve of all acts of their rulers. England as a sovereign state is different from Germany in that she keeps her sovereign ruler on public exhibition, but immobile like an inspiring statue of Helios.

All states which rise like the Roman and German states must fall like these and for protoplasmic reasons. In regard to later civilisation we anticipate that decline will be conducted by microbic influence more than by arms. Perhaps in future civilisations other states which admire and appreciate some one highly developed state will not be surprised at its downfall. The reason why they are surprised nowadays is because the billions of dollars expended upon arms are not expended instead upon the giving of every man in the civilised world a proportionate number of thousands of dollars which would allow him to equip himself in science. Intensive agriculture and collateral sciences which are grouped about that one basic study lead naturally toward avoidance of warfare-by-

arms. Up to the present time in this Great Double Invasion War, the money expended for purposes of destruction if apportioned evenly would allow every man in the civilised world several thousand dollars which might be used for purposes of instruction. The reason why it is not used for construction instead of destruction is because of man's synap head.

Had any one told the Romans that Rome was to fall he would have been looked upon very much as the Germans now look upon the naturalist engaged in telling them that their government is falling because of the working of the law of cultural limitations.

Manifest destiny may be viewed in two ways, as it was viewed by the Romans, and by the Germans of 1914, and as it is viewed by the biologist. The destiny of Prussia at least is clearly manifest to the student of natural history.

CONCERNING A BASIS FOR PEACE

CONCERNING A BASIS FOR PEACE

LET us stop for a moment in order to ask how a state which calls itself sovereign can break any law. The idea of state expresses the belief that a state can make laws sufficient unto itself; furthermore, that service to the state represents the highest morality, and that the question between states can be settled only by warfare or by diplomacy (which leads either to or from warfare). Let us go back for a moment to fundamentals again, and remember that according to the laws of continuity civilisation is developing in the same way and for the same reasons that sap channels in plants developed. This statement is not to be viewed carelessly as a mere picture. It is to be taken seriously into mind as a principle of biologic significance. At first small herds of men were constantly engaged in conflict with each other and with their various enemies. Gradually they became united in larger and larger aggregations and estab-

lished more complete sap channels of trade. As civilisation advances we may assume that great civilisations will consist of many assembled states dependent upon the sap channels of trade. Up to the present time the sovereignty of states has represented a primitive conception of the needs of human society, but we have now arrived at a period in the world's history when the state which sets itself above international law on grounds of sovereign expediency will be treated as an outlaw by other states. Historians seem to choose the year 1453 as a sort of dividing line between mediæval and modern history. The year when this G. D. I. War ends will likely enough mark another dividing line, that between democracies and autocracies, and the establishment of an international police which will prevent a state which dreams of sovereignty from becoming an outlaw. A morality, higher than that of service to the state is a morality of service to the species. Germany was finely equipped for developing that point, but Prussia diverted attention and an opportunity was missed. Service to the species will eventually be more fully under the guidance of international law.

In what way could naturalists render service at The Hague? Mainly in the way of furnishing information of the sort upon which people have already agreed, and which would serve as a basis for the use of the intellectual set of faculties. They would show that some questions of justice and honour and revenge and reparation are brought forward in the interest of the emotional set of faculties, and the consideration of such material has in the past failed to prevent the recurrence of wars, with only five or six years of intermission in Europe alone. They would show that according to the laws of continuity, the development of various organisms relates to team work, and that team work on the part of the states would be on the basis of object lessons already available in organic life. A colony of ants with different functions belonging to different members makes such a harmonious whole that a colony of ants has been spoken of as one organism. Man did not become a supremely successful organism until his various cell colonies worked harmoniously in the form of organism. Different states in different parts of the world, according to the laws of continuity are progressively engaged by mutual inter-

dependence in forming an organism like a colony of ants or a colony of cells which form one man. Perhaps the most impressive lesson for Hague purposes will be the one to which previous reference has been made. Plants beginning from simple cells became higher and higher plants in proportion as they developed sap channels carrying nutrition prepared by one set of organs for the development of another set of organs in the interest of the entire plant. These sap channels correspond practically to the channels of trade between different countries. A civilised world prospers and develops into one great organism just in proportion as it develops sap channels of trade between harmoniously working members of the organism, near and distant. There seems to be such a well defined system in nature, regulating the development of organisms through team work, beginning with the first combination of simple cells, and extending through all of their combinations and relations with each other and with their internal products that the natural history of peace apparently belongs definitely to the natural history of the human race.

May the law of mutual interdependence be

employed as a weapon in a defensive way? If the chambers of commerce of different nations were to unite in such a way as to secure control of the boycott, refusing raw materials to a country which refused to recognise this law, we would have in that fact a concrete example of legitimate warfare for defence purposes in the interest of the species. The employment of such a boycott weapon would take the place of bleeding quite as successfully as the employment of aconite in medicine has now taken the place of old-fashioned bleeding for certain kinds of illness.

Biologists would finally explain the nature of senescence of protoplasm, showing why nations come and go like the cells of a single organism. They would describe the peculiar nature and varieties of man in different nations in such a way that the actions of any one nation might be clearly anticipated, and placed in orderly position for the making of deductions in relation to procedure.

May the actions of any one nation really be anticipated? Goethe said that the Prussian was born a brute, and civilisation would only increase his ferocity. This does not fit my good

Prussian friends but it has been demonstrated as a natural feature of Prussian politicians. The gentle South German Catholics are devoted to peaceful occupation, yet both belong to the same nation. This requires a knowledge of the different races constituting a nation, so that we may more properly say that The Hague biologist would describe a nation of races and then deduce the probability of action of a nation by the degree of domination exercised by people of some one race in that nation.

Naturalists have known for some time that crosses between subspecies of *homo* resulted in the formation of hybrids lacking in cenesthesia of race gregalism. Such people are prone to be actuated by individualistic rather than by gregalistic struggle urge. The object lesson offered by Eurasians has not to my knowledge been carried to an inclusion of Mexicans, Aryan (Spanish) x Mongolian (Indian).

The naturalist of the future will be obliged to note the effect of hybridisation between varietal types of man quite as well as hybridisation between specific types of man.

He might state that the turbulent Nordic x Mediterranean South Irish and the docile Al-

pine x Nordic Bavarians are equally fine people in all features of civilisation excepting in their different kinds of response to pressure exerted by authority. That one difference, however, gives them different values for respective places among the interdependent organs of a world state.

The charming, imaginative, and wasteful South Irish will always remain in conflict with the canny, practical and thrifty North Irish and with other people of Great Britain. The reason for that will not be sociologic, but biologic and relating to the natural history of differing varietal types among primates. Without speaking seriously we may remark that the Irish question will forever remain unsettled unless Great Britain makes a trade with Prussia, exchanging South and Middle Ireland with its Nordic x Mediterranean hybrids for an equal area of Germany populated chiefly by the Nordics or Nordic x Alpine hybrids.

The naturalist would explain that people of one variety throw out thyroid iodin more promptly than do people of another variety for the same reason that a mimosa moves its leaves more promptly than does a kalmia when motion

is suggested by their respective enzymes. The nature of enzymic response characteristic of any given variety of people in the presence of an irritating question will be employed in the computations of The Hague debaters of to-morrow. For example, we know that the products of one Mediterranean cross are people with the characteristic of knocking down an adversary with a shillalah to-day and shaking hands with him to-morrow. The products of another Mediterranean cross have the characteristic of waiting for months or even many years for the opportunity to slip a stilleto into the back of an adversary who has given offence. This is a matter of natural history and to be given value as such in relation to varieties of men.

The Germans are perhaps the most studious people of any in the world. They tell of the German doctor who turned over two leaves of his book by mistake for one leaf and killed his patient. Treitschke, physician to the Prussian government, turned over two leaves by mistake for one leaf and killed his patient. A page which remained unopened was one which dealt with natural history. Treitschke read history,

but it was social history. He mistook it for all history and decided that if nothing in history had been shown to be greater than the state, the idea of looking for something higher must be nonsense. Natural history, however, teaches that a world state would represent the outcome of efforts toward order as exemplified in the associated members of an oak tree. The conception of state since earliest history has been a constantly and logically widening conception of the idea of association of states. Treitschke says that the idea of a world state is ludicrous when we think of the different peoples who would have to be assembled in that one state. He does not stop to remember that the acorn of the oak and the rootlets of the oak belong to "one state" although they are about as different from each other as the Malayan and Aryan people in the single organism or world state of united sap channels, according to the vision of the naturalist. Treitschke came near to the discovery of a number of great truths but he missed these by the proverbial inch. He was in the predicament of a man who jumps almost over a brook but not quite over, because he mis-

took social state history for social natural history.

The clear reasoner will say that we are dealing with ultra rational sanction rather than with established fact when postulating the existence of a power higher than that of physical might. There seems, however, to be a rational basis for our assumption, in the fact that man has actually developed moral reasoning as a peculiar attribute, and this peculiar attribute has allowed him to postpone warfare-by-arms over progressively lengthening periods since the days when physical might alone conducted evolution.

Patriotism as a prejudice opposed to the ideal of the brotherhood of man, is obliged to take its place temporarily as a force for the securing of order. The "international mind" of President Butler is related to the "universal will" of Kant, and the "general will" of Rousseau, excepting that Kant and Rousseau were speaking only of the establishment of a state, while Butler enlarges the idea to a point which includes a federalistic grouping of all states. The Butler idea is the most modern, looking toward the sap channel idea. Mazzini in his "College of Intellectuals" sought to guide the democrats of

many lands toward what I call the sap channel principle. The champions of Internationalism up to the present time have been found chiefly among international socialists, exerting their influence at the wrong time. They have a good idea but have crudely chosen times of distress in their respective countries when making an attempt at disposing of the whole world idea for the purpose of bringing about a communistic revolution. Such a movement strikes chiefly at a country that is down and always plays directly into the hands of the enemy which holds other ideas.

After the civilised world has become democratic as a result of the present moral evolution, it might remain democratic for a very long time excepting for the birth of a certain number of politicians every year. It cannot become democratic unless politicians change along with it. While the public is awake to its own great interests it dominates the politicians. Gradually, however, when a sense of peace and security once more pervades the great public, world affairs will be turned over to politicians who will shortly begin methods leading to warfare again.

One may ask what will take the place of war-

fare by arms as an outlet for pent up emotions. Many things might take the place of warfare-by-arms, but the public is not yet ready. Civilisation has not reached a point where it may take up with enthusiasm the subject of contest with nature, in intensive agriculture for example. The increase in games and out-of-door sports has been a marked feature of American life, at least since the latter part of the Nineteenth Century. These two features which form a positive outlet for combative energy cannot be prescribed for a people who have not cultivated a taste for them. We cannot oblige men, women and children of a nation to play football or even golf. We cannot oblige all of the men, women and children of a nation to go into the exciting out-of-doors game of intensive agriculture, because that includes the idea of a high degree of scientific attainment beyond the plan of our present day public schools.

The matter of intensive cultivation of the soil is to become the chief reliance against war in the future. The American Indian required something like nine square miles of land per Indian in order to live according to his way of living, while the Chinaman at the same time

had learned how to live at the rate of three to an acre. German science and philosophy in relation to agriculture is detailed in tons of books, but, practically, Germany had not advanced up to date in the practical application of agricultural science. America has taken the lead in nut crops, yielding the largest percentage of nitrogen, fats, and starch per acre. The amount of money which Germany has expended on this war, if applied to the education of its peoples along lines of intensive agriculture of the soil, would have removed the longing for more room which is said to have been and doubtless was a basic *vis a tergo* among fundamentals of the present German eruption.

The naturalist is alarmed at the dangerous tendency of the public to drop warfare questions as soon as war is over, in order to hurry and make money enough to pay for the next war. Every one of the great wars of the past hundred years was spoken of as "the last war" in its contemporary literature. Every one of the great wars of the past hundred years was studied by military and political experts for the express purpose of making ready for "the next war"—something which always came in due

time as it will come again to-morrow and again after that. We may at least assume that such will be the case because people are not as yet far enough along in civilisation to make concerted effort toward removing a basic *casus belli* —the one relating to food supply. This cause for war is readily removable by way of intensive agriculture.

I have said that "we cannot oblige people to interest themselves in the matter of intensive cultivation of the soil." How about that? In other countries military service leading toward destruction is obligatory and paid for by the state. May the state not oblige people to become trained in constructive service, and pay such bills as freely as it pays the bills of the other sort? My proposition would be this: conscription for the purpose of compelling young people of both sexes to devote two years of their lives to service for the country. This would constitute a step forward in development of the ideal citizen of the world state of tomorrow. Each national member of the world state would claim two years out of the lives of its young people in return for high class protection given during the rest of their lives. Young

men and young women would be taught obedience to authority in civic duty as soldiers are now trained in methods of discipline. The principles of intensive agriculture would be an essential part of the curriculum. One of the two years would be devoted to study conducted in another country in order to widen the horizon and dispose of that narrow valley view which allows individualism to sink down into cramped position. Compulsory training which included intensive agriculture would give each one of the young people opportunity to at least know how to make a living as a constructive producer even though he or she did not wish to make extended application of the knowledge in further study.

According to the sap channel idea in the development of associated nations there is always the idea of substituting juridical for military settlement of dispute between nations. The basis of fact and the object lesson from which we have the right to foresee this kind of juridical settlement is found in the history of the federal organisation of our thirteen original states. These states were almost as jealous over their respective sovereignties as are the large nations of Europe to-day. Through suc-

cessful diplomacy our thirteen states disarmed and agreed to carry all of their disputes to the high tribunal of the new federation. With this example in mind we may suppose that when the present German government with its idea of ruthless sovereignty has been disposed of, the rest of the civilised world may be ready to follow the system adopted by our thirteen original states, a system which has been growing successfully. The German government was the only one at The Hague conference which was unwilling to join with other nations, preferring to live up to its expensive theory of might, expressing in the meantime perfectly open contempt for other nations. When in our country we had secured peace by referring interstate disputes to federal tribunal we next urged the same kind of settlement of international affairs. A permanent world court was what we had in mind, and we had signed arbitration treaties not only with the great powers but with weak neighbours in order to show good faith. In the piracy without mercy of the U-boat attacks, the German government from its standards of morals believed that it was acting morally when making an agreement not to sink neutral vessels, em-

ploying this ruse for nearly a year in order to gain time for building more U-boats. From the American standard this was simply a matter of bad faith on the part of the Imperial German Government. From the German standard of morals the German agents were honestly at work with applied psychology in Latin America, Japan, Cuba, Haiti and San Domingo for the purpose of sowing seeds of dissension and stirring up one nation against another, and the whole against the United States. German agents for applied psychology were engaged in hunting up all the elements of unrest, financing and capitalizing them in different countries. German diplomats in high position were acting as spies in violation of our hospitality, in other words, from the German standard of morals, nothing in the way of trust should be allowed to stand in the way of the German offensive in America and in other countries. On December 12, 1916, the German government sent a note to the government of the Allies proposing negotiations for peace. The note was sent in terms boasting of German conquest and carrying the threat that unless neutrals used their influence to end the war on terms dictated by Berlin, Ber-

lin would consider itself quite free from any obligation to respect the rights of neutrals. The threat included warnings that if the German peace movement were not to be successful we would have to beware of the consequences and that the U-boats would be sent on their errands of unlimited destruction. This was a synap head misunderstanding of other peoples. American Allies arose to the bluff with dilated nostrils, inspired and exhilarated with the promise of sport with big and dangerous game in prospect. Germany had supposed that they would run away at the sound of a funny noise.

Peace like the reputation of a bank is based upon good faith only. History is the Bible of politicians. Germany reading history backward found brutality and bad faith recorded everywhere. Reading of a past and forming a basis for action upon that past becomes esoteric reasoning. It does not look exoterically to that great future of advancing civilisation which is evolving as plants evolved with armed protection, while establishing more and more sap channels of trade, and good ligneous union of parts. The world soon learned better than to take the word of Germany and she lost her rep-

utation. The lower a woman, the less the pity when her reputation is lost. The more cultivated the woman the greater the pity. This applies to nations as well as to individuals. When Germany failed to borrow money from Holland on Treasury bills at 15 per cent. interest it was due to Holland's later estimate of German reputation quotations in the market.

During this time of warfare, when there is a reversion toward primitive instincts on the part of all in any way engaged in the contest, we must force ourselves to remember that Heine, Goethe and Schiller were not the Germans who are now cynically leering with blood smeared visages over a devastated civilisation. In the course of reconstruction, when international order will be the order of the day, the good that is in Germany, the wonderful good that we all know, love and respect, will do its share toward the development of international order.

Neither poets nor clergy, nor any other metaphysical cohesive force has sufficed for harmonising mankind. Rome planned the essential unity of mankind in a supremacy of law and proposed the Pax Romana. Locke, Montesquieu, Rousseau, and Kant sought to place the

foundation of the state in international law rather than in military power about the beginning of the Nineteenth Century, but tribalism up to the present time has interfered with such efforts very much as the municipal politician brushes aside laws of civil service reform in the interests of his clan. When the municipal politician in a democracy is successful, he and his clan treat the city like a conquered province, witness the history of Tammany Hall.

Tribalism or herd instinct, basic in the nature of a gregarious species, felt that progress had been made when it agreed in the Peace of Westphalia that sovereignty is supreme power regardless of any principle of right.

Paleozoic remains are strewn over many waste places in the world and the sovereignty idea will some day be discovered by men engaged in uncovering the fossil remains of past governments. They will find that the slogan βια βια βιαζεται had resulted in placing government remains only a stratum or two above the bones of the allosaurus.

THE GREAT DOUBLE INVASION WAR

THE GREAT DOUBLE INVASION WAR

BEFORE taking any question of countries into consideration we must first obtain a pretty clear view of man himself at this stage in our particular æon.

Why does man invest in the wrong financial enterprises, marry the wrong wife, and vote for the wrong political candidate with a frequency that would shock the instinct centres of an old four-footed rat? We may stop for a moment in order to give consideration to this four-footed question, which is basic in understanding our whole subject of warfare. The rat which has remained upon his four feet in the course of his evolution has been guided safely by his instincts which belong to a brain following a normal course in appertaincy, to paraphrase Lamarck's "appetency." Man's brain, on the other hand, seems to have followed an abnormal course. Apparently as a result of some accident or of an evolutionary course not planned

by nature, he began to arise upon his hind legs in the hyrax stage of development and he continued to become more and more erect when passing the lemur stage and the anthropoid ape stage as a phyletic cousin of these primates until he arrived at the condition known as man. The reason why we postulate that man's arising upon his hind legs was due to some accident not foreseen by nature is because of the fact that so many structural defects appeared in connection with the erect posture. There are imperfect muscle bearings, weak walled inguinal canals, and badly placed stresses in joint action. The physical defects of a man as compared with those of a rat are at once apparent to an engineer, and they need not be mentioned here, excepting for quotation of a few examples which will suffice for indicating that man's brain was obliged to develop unexpectedly by appertaincy in order to keep pace with the newly acquired freedom of his fore-legs. If he became an arboreal primate still further adjustments not contemplated by nature had to be made later. Man's brain developed remarkably well in the presence of physical defects of structure for the same reason that his muscles and bones devel-

oped as well as they did in the presence of faulty structure—a structure not originally adapted to the erect posture. Structure and function are closely allied. Assuming that the cell construction of man's brain went wrong when trying to follow other faulty anatomic processes, we may deduce the conclusion that his mind acts in faulty ways as a natural consequence. We may condense the idea of man's mind acting *along with* anatomic appertaincy, and then coin the word "synap head" for purposes of brevity in description. This offers explanation for man's devotion to funny religions, for example, and for the absurd choice of leaders in literature and in art which is displayed by so many individuals. We may assume that man must continue to be his own worst enemy for mechanistic reasons which he cannot avoid for awhile. He is the only animal capable of developing a philosophy which can make him unhappy, and he abets this sort of philosophy through choice of food and of daily habits which further interfere with the normal action of brain cells. He forms the only animal group in which individuals are persistently engaged in trying to fool each other, spending millions of dollars for this purpose

annually in printed advertising alone. He is the only animal which constitutes an epidemic against others of his own kind. Man is not only an epidemic against nature's resources, destroying the forests and wasting the land, but in frequently occurring wars becomes an epidemic against his own kind. During times of warfare-by-arms, when man reverts to primal instincts, mutual recrimination between combatants makes nuptial arrangement giving birth to a voluminous spawn of falsehoods. These are in part based upon misapprehension belonging to defective brain action. Warfare falsehoods belong also in part to military and in part to political policy. The schoolboy said to his teacher: "A lie is an abomination unto the Lord and an ever present help in time of trouble."

People engaged in warfare are in trouble.

Biology then looks upon man as being a very defective primate, an offshoot from the primitive simian group, which gave collateral descendents better anatomy. Sociology takes a different view. Sociology in its upper levels is represented by theology. Theology assumes that man is a finished product. In order then to make a compromise when discussing warfare

questions I shall consider man to be an imperfect simian, and shall make polite compromise with theology by naming him a "Finished Product." For purpose of brevity, we may shorten this compound word into the single name of "Finprod."

The young finprod has a natural tendency to develop along ideal lines. He eagerly learns about fair treatment of his neighbour, about development of the intellect, about cultivated enjoyment of the emotions, and about the value of justice. Because of defective mechanism of the brain structure, he runs into knots when making personal lines of cleavage into the structure of society. Some finprods are deflected downward to join the criminal class, others are deflected upward toward the class which is enabled to make good social adjustment. Still other individuals deflected upward out of the normal course become the higher minds in fanaticism, genius and spiritual expression. With advancing years many finprods develop the characteristic mental type which includes an attitude of supercilious arrogance and cynical disregard for the rights of others. In times of warfare mutual recrimination charges this at-

titude upon the enemy, but it belongs in fact quite as well to some Britons as it does to some Prussians.

Let us now observe what the finprods are about when responding to evolution urge in its bearing upon warfare questions.

Sometimes when we are confused by the glare of the sun, certain points of the compass may be comfortably obtained from the moon with its reflected light. In this connection the letter of a Prussian school-girl to a young friend in Switzerland, quoted from the *Scotsman* in *The Literary Digest* for August 18, 1917, gives a remarkably concise statement of the Prussian point of view.

FRANKFORT-ON-ODER, 20th July, 1916.

My dear Louise:

The contents of your last letter would have hurt me had I not known that your thoughts of our glorious war resulted from sheer ignorance.

You are in a country rendered effeminate by the influence of old-fashioned ideas of liberty, a country which is at least two centuries behind

ours. You are in need of a good dose of Prussian culture.

It is evident that you, a Swiss girl, with your French sympathies, cannot understand how my heart, the heart of a young German girl, passionately desired this war. Speaking of it some years ago, my father said to us: "Children, Germany is getting too small for us: we shall have to go to France again in order to find more room." Is it our fault if France will not understand that more money and land are necessary for us?

And you reproach us that our soldiers have been very cruel to the Belgian rabble, and you speak also of the destruction of Rheims, and of the burning of villages and towns. Well, that is war. As in every other undertaking, we are past masters in the making of war.

You have a great deal to learn before you can come up to our standard, and I can assure you that what has been done so far is a mere bagatelle compared with what will follow.

As a matter of fact, there is but one race worthy of ruling the world, and which has already attained the highest degree of civilisation. That race is ours, the Prussians; for though we Germans in general are the lords of the world, the Prussian is undoubtedly the lord *par excellence* among the Germans.

All other nations, and among them, unfortu-

nately the Swiss, are degenerate and of inferior worth. That is why I have always been so proud of being a true Prussian.

Yesterday, again, our pastor explained to us convincingly that our first parents, Adam and Eve, were also Prussian. That is quite easy to understand, because the Bible tells us that the German God created us all after his own image. If, then, all men are descended from Adam and his wife, it follows that only Prussians, or at least Germans, ought to exist in the world and that all who push on and prosper ought to belong to us. You must admit that that is logic, and that is why our motto is, "God with us, Germany above everything."

You know now why we wished this war. Is it not shameful that other nations, who have no right to existence on the earth, wish to diminish our heritage! We are the divine fruit, and the others are only weeds. That is why our great Emperor has decided to put an end to all these injustices, and to extirpate the weeds. Do you understand that now?

I remain, your school friend,

KATIE HAMEL.

(*Daughter of the State Councillor of Architecture.*)

Right here we must remember, on the other

hand, that Germany possesses an abundance of sane men trained in the ways of clear and right thinking, and who educate their children in the highest of principles. No friend of Germany could have written better and with so little prejudice as did the authors of "I Accuse" by a German and "Because I Am a German" by Herman Fernau. Such books will go down in history alongside of the books of Treitschke and Nietzsche in relation to the Great Double Invasion in the year 1914, although it is punishable by death to have one of the first named books in possession in Germany to-day.

By "Great Double Invasion" we mean the Prussian Invasion of Europe plus a Prussian Invasion of the German people themselves by its military caste, including large commercial interests. This war is marked by a curious mixture consisting of a combination of old virile and new decadent phenomena. The will to win is a virile conception. Decadent features are exemplified in the military employment of gas and flame, disregard of the lives of women and children, and the breaking of international law by means of the sneaking U-boat. The malicious destruction of fruit trees while serving the

Prussian conception of military purpose, belongs more properly to Prussian self-expression. Prussian self-expression is also exemplified by the bombing of babies in air raids upon undefended towns. The German knight of old, der Edle Ritter, stood erect when donning his shining armour. He engaged the enemy heroically, actuated by the accepted finer martial motives. The German knight of to-day crawls upon his belly dragging a gas tank behind him. This may stand as a picture of a soldier born of Kultur with its great resources of scientific chemistry, the product being a Gasknight characterising the German hero of to-day. Who proposes a toast for the Gasknight? "More than one sovereign ruler has gone down in history carrying an appellation distinctive of some one activity. The present ruler of Germany may be allowed three such nomenclature decorations: Kultur limitations, will to power, gas innovation. These will make him historically, not Kaiser Wilhelm der Gasser simply, but "Kultur Will der Gasser."

The German government while invading its own people informs them that other countries will furnish indemnities and will pay debts. The

American government tells its people that such indemnities will not be paid. Confiscation of property and repudiation of debts will have to be "made in Germany" in order to balance the German government accounts, if we guess right. The German government has said nothing about "no indemnities and no annexations," but as one of its legitimate ruses, legitimate in consequence of warfare, it has allowed its oracles to carry the flag of no annexations and no indemnities into Russia with the effect of causing tremendous internal dissensions. The reasons why the Russian and the Italian Socialists did not understand that such a slogan did not really emanate from the German government which was laughing up its sleeve is because of the working of the synap head in Russia and Italy.

The Great Double Invasion was dependent partly upon the fact that the Hohenzollern eagle found its wings being clipped by the Socialists. It was in danger and for that reason planned to strike out in desperation, but the Hohenzollern eagle had passed its days of great usefulness and was brought down to roll in its own blood and dirt when engaging in war practices which brought about reprisals in kind.

The war will perhaps not be brought to a close until Germany is completely exhausted. When two individuals are fighting they do not stop because one of them suddenly begins to reason. Very much the same sort of psychology belongs to nations. We all know individuals who would die rather than give up an idea. The Germans with their fixed habit-thought of militarism which has been successful for forty years as a guiding motive formulated by their philosophers would probably die rather than be free.

Ninety-three wild geese majestically swinging along their high road in the sky furnish inspiration for all men who look upward. Imagine a bolt of Jove frightening them until their free wings become locked en masse. They would tumble like a pumpkin from heaven. Ninety-three German professors did just that at the crack of the Hohenzollern whip reminding them of their slavery. They fell in a tangled mass of human wreckage after combining in morbid effort to mislead an alert world that had been previously looking up to them with a feeling akin to that of reverence. The spectacle gave us a sensation of relief in a way. We all breathed a bit easier in the knowledge that pro-

fessors were really very human. Germany made a synap head blunder in buying up her professors, tying them together in a bunch and offering them to the world at a marked down price. The world looked at them as being cheap, but refused to accept damaged goods.

The noise of the 1914 explosion sent teachers and preachers scurrying with the agility of squirrels to the cover of their financial protectors in each one of the warring countries. Hardly a single teacher or preacher remained with his head an inch above the level of the ground of his own country. These people are now engaged in applying skill to methods for giving out information, and after the war they will write histories.

Why do historians of two countries write about one event in two different ways and allow the student to write about the same event in a third way? This is a matter of pure psychology belonging to our rather primitive stage of human development, and one which will presumably be improved upon during this æon or the coming one. Up to the present time human testimony has been selected through a mental process known to us under the name of choice.

The selection of data has been made in response to feeling and is therefore unconscious in its nature. Historians are perhaps unconsciously rather than consciously unreliable when placing facts in position, and giving them the best light. Successful newspapers make headlines of what the public wishes to hear rather than what it should know. The people in any one country quickly choose facts relating to primitive instinct for self preservation. Their actions are recorded by historians more or less on the basis of the working and results of this instinct. Diplomats depend upon a certain phase of natural history which we call social history rather than upon basic natural history. Social history like all of natural history incidentally records brutalities of the past. The dependence upon this part of past record as a basis for present action would be working backward according to the method of Chinese philosophy instead of looking forward to the kind of evolution that the German people were capable of making and in fact were making. Members of the German military staff then were esoteric Chinamen, far behind these exoteric times, when choosing their

brutalities from history and extending them as policy.

During the days of German ascendancy she would not have adopted so largely the fixed policy of deceit with plans for making promises that were to be broken as soon as any one trusted her enough to get caught in the snare of her words. In those days Deutsche Ehre was a genuine force. Now in the period of her decadence she has adopted from her Oriental Allies the method of applied lying, not claiming it as a new discovery, but giving it precedent over Ehre and laughing up her sleeve cunningly when any victim approaches the bait of her word of honour.

Because the world was simple enough to take the word of Germany, German philosophers promptly deduced a conclusion from these premises that the world was simple equally in other directions, and having come to this conclusion played the game accordingly.

Germany when adopting from history the fixed policy of duplicity deceived herself about the values involved in that policy. Much of deception is unintentional, and, furthermore, sometimes accruing to the advantage of the de-

ceiver, but it cannot be capitalised as a fixed national policy in which are to be placed the vested national interests of a great people.

German efficiency has included the idea of putting its diplomatic service in the hands of members of the nobility, while Great Britain on the other hand has employed trained diplomats, who have demonstrated their value before being given position. The German method would be represented by a railroad, the employees of which were political favourites, while British diplomacy on the other hand would be represented by a successful railroad in which men had been moved up to their respective positions after proving their worth. At the outset of this war British diplomatic superiority was matched against superior German military power. We know from her own published records that Germany had planned to dominate the world, and had willed to carry out a definite line of procedure without regard for any law excepting the law of the jungle. The planning was not even secretly conducted, because the intentions of Germany have been openly stated with ever increasing frequency of late years. We must keep in mind the fact that this move-

ment did not belong to the German people. It belonged to their slave masters. Politicians as a class represent a clan rather than a people. They make use of the people in the interest of the clan. The Hohenzollern clan descending from its place of nobility had included notable commercial individuals, and this blending promptly lowered the quality of the German dynasty. We may ask why the German people submitted so freely to their leaders. It is probably because they had perceived the temporarily practical working of a religion in which no word of honour beyond the interest of the state belonged to that religion. We not infrequently observe the same pragmatic progress in a business corporation, until the time comes when an outraged public exerts mass force which destroys that kind of an edifice.

When a banker goes to jail because of misdeeds he whines and asks why he should be jailed for doing things that he learned from other bankers. The principle is this: A tolerant public puts up with misdeeds, little by little, in very much the same way as a thunder cloud gains electrical energy. The moment arrives when a certain banker increases the ten-

sion of misdeeds up to the point where there suddenly occurs a flash and the discharge of his kind of energy. Equilibrium is then restored for awhile, between bankers as between thunderclouds. When one country breaks laws along lines of suggestion made to it by successful law-breaking on the part of other countries, tension increases until the flash comes. Then follows readjustment of energies. That is the purpose for which other countries are now joining in efforts against the outlaw government of Germany which does not represent the German people as we know them under ordinary circumstances. There has not only been strong disapproval of the acts of the German government by officers of high rank, but lesser German officers have committed suicide rather than carry out orders, and German soldiers and sailors have sometimes killed their own officers. We must always pause to think of this feature of the situation when holding the whole German people to account for the action of their rulers. Von Buelow and von Bethmann-Hollweg as wise men were always in a difficult position between banks and military policies opposed to each other.

When seeking to give true value to the finer side of the German people we must never forget their creditable attitude in making strong resistance to the invasion of themselves by their government. The prosperous and happy German people were engaged in peacefully winning the world by means of superior skill and intelligence. Civilisation looked on admiringly and with kindly approbation. In the midst of their era of success they were invaded by a jealous military clique in its own interest. Application of force always entails its own natural consequences in accordance with Newton's Third Law. Plotters for the Great Double Invasion have now brought upon themselves the inevitable reaction. A huge world is actively engaged in repressing them, and assisting the invaded German people who may be expected to strike as soon as they can go into action safely after the war. In the meantime the Prussians are following the tactics of the old-time Mississippi steamboat captain racing with a rival captain. When getting out of fuel he would burn lard, flour, and other merchandise regardless of expense, and obliged to pay the bill later. Prussia is now burning up her finest young men

and her commercial resources regardless of expense—the bill to be paid later.

About thirty days before the war broke out it was resolved at the Potsdam conference to make use of the Austrian ultimatum to Servia, in order to force the "great reckoning" with Russia and therefore as a matter of course with France. The feeling of the German public toward the war clique was so intense that during the month of July, 1914, in advance of the war and at a time when pacifs imagined that no war could occur, more than twenty mass meetings were held in the city of Berlin alone for the purpose of protesting against the impending war. According to German press reports some seventy thousand men attended a single one of these meetings, all of them in advance of the war we must remember. *Vorwärts* openly declared a fortnight in advance of the war that the camarilla of War Lords was absolutely unscrupulous in its designs of precipitating an international conflict. This paper charged that the government policy was completely devoid of conscience.

Publication of the secret documents of Russia indicates that in the last days of July, 1914,

the German government deliberately planned and played a game with Petrograd in very much the same way as Bismarck played the same game in 1870; for the purpose of forcing Petrograd into a step that would precipitate the war and allow Germany to say that Russia began it.

Any whole subject is more easily understood if divested of its non-essentials when these are nothing more than large social incidentals obscuring our view. The Prussian girl's letter gives us one clear and simple view of a very large subject. Another one relates to the familiar toy of a monkey on a stick which moves its arms and legs in response to a pull upon the string. The Prussian vassal states are monkeys upon a stick. Whenever, for example, Prussia pulls the string, Austria-Hungary moves its arms and legs in response. Keeping this picture firmly in mind we may dispose of the more elaborate features of the dual monarchy, thus avoiding profoundly philosophical explanation. Suffice it for our fundamental study to say that when Berlin pulls the string, Vienna moves its arms and legs up and down.

This war is not the only thing we are in. It is well to recognise that fact distinctly. We are

in a stage of active evolution of human adjustments and of governmental experiments. This great war represents only one incidental phase of that evolution. It is very much like a controversy over the modification of the Federal Constitution, but on a larger scale. The controversy now deals with a larger federation—the federation of sovereign states under one constitution.

United Germany from its Fichte phase moved sidewise to United Germany in its Hegel, Bismarck, and Treitschke phases. Then came the logical ending of that experiment. Methods that had served for construction passed the pivotal stage and came into conflict with the law of diminishing returns when Germany in mass force attempted to apply Prussian method to peoples not adapted to the terms for her experiment in the great laboratory.

One country is as good as another, if not a little better. The fact that the French Revolution did occur belongs with the fact that practically the same movement is under way in some other countries, and we shall have in the evolution of civilisation a repetition of the history of Eohippus, Mesohippus, Meryhippus, Hip-

parion, and Equus from the condylarth which represents the government of to-day. In other words, human needs may be counted upon to slowly look after their own interests with a constantly increasing degree of utility success.

Were all nations to consist of botanists, of engineers, of astronomers, there would be no warfare-by-arms. Does any one inform us that botanists, engineers, and astronomers are effeminate or selfishly material in their desires? In every large lot of human beings born there will be found a small percentage of politicians. Their honour shortly is to become injured. The honour of a botanist, an engineer, or an astronomer does not become injured. It is the injured honour of the politician for which the botanist, engineer, and astronomer must pay out his financial competence and for which he must send his children to face the cannon, to suffer, and to be slain.

If this war lasts into 1919 we may have international Socialism instead of a world democracy that is possible in 1918. The reaction toward Socialism would probably be too violent for the best interests of the world. It would be temporary, however, because Socialism in-

cludes all human elements. That means the inclusion of the politician. The politician among the Socialists will act there as he acts elsewhere because of his nature; he will establish discrete autocracies and these will then proceed to repeat the history of autocracies.

When psychology had been promoted to the rank of a science, psychologists took up a number of human problems as belonging to their special province. Having perceived that sociologists could not write war history correctly, and not realising that this was due to the synap head of man, they applied their own methods. War problems remained unsolved for the reason that psychology itself came at times under the influence of the synap head, and it was not fundamental as a basis for studying warfare questions. While the psychologists were learning that they could not prevent warfare through practical application of their science, they incidentally observed that warfare could obtain new resources through application of certain principles of psychology.

The German General Staff appreciating the importance of this feature of applied psychology raised the psychologist to high rank as mil-

itary adviser. He advised the Staff about the way in which dissensions might be brought about successfully between neutral or enemy countries and between political parties within countries.

The psychologist said to the General Staff, "You must make Jähzorn Ingrates out of American Germans, persuade them to believe that America does not amount to much and lead them to forget that your telegraph, telephone, submarine, and aeroplane came from the country in which they have prospered because of a generous government. Head off the tremendous power that these democrats will immediately place at the disposal of the democrats in Germany unless you really would have great Germany march straight along to fulfil a glorious destiny which leaves out the Hohenzollerns and the Junkers.

"In the first place there is German blood to deal with. Inject into it insidiously the idea that the fatherland is in danger instead of allowing the blood to imbibe the wholesome truth that no one but the Hohenzollerns and the Junkers are really in danger. Spare no expense when getting that idea about danger to the

fatherland instead of danger to the Hohenzollerns well fixed by means of well paid German agents in America. When that idea is circulating and causing the first symptoms of fever to appear, transform the idea into feeling by means of a host of other German agents under the direction and leadership of our authorities in psychology. Having brought about mental derangement with its illusions and hallucinations you will then avoid the danger of German-American democratic influence being brought to bear upon your democracy at home. Furthermore you will cause such a degree of disturbance, such a dislocation of social adjustment in America that the United States will be delayed in bringing her millions of men and money into effective position.

"If you fail to deceive the German-American, America will wish to dress him in the clothes in which he came, put the original amount of money in his pocket, and send him back to the fatherland (Gerard). When you establish a propaganda newspaper in America, be sure to call it Der Vaterland instead of Die Hohenzollern."

At the time of the Russo-Japanese War, pre-

ventive medicine was for the first time in history raised to the rank of a first-class military resource. Every great upheaval of any sort allows some one subject that was struggling for release to come to the surface like this one of psychology in relation to the present, and bacteriology in relation to the Russo-Japanese War.

The thoroughness of Prussian application of principles of psychology in preparation for the Great Double Invasion is nowhere better demonstrated than in the heartless trick of securing pitifully little bits of gold in the wedding rings of women, on the cruelly deceitful plea that it was the gold instead of women's souls that was wanted. The appeal for wedding rings was made at the very outset of the war. The tokens of affection were removed with sobs and tears from fingers from which they had never been removed since the wedding day, while grinning ghouls at Berlin cold-bloodedly reckoned the effect. I know of one remote farming district in New England where German-Americans were so few and far between that the local postmaster who knew even the name of the cat in many of the houses in the township had forgot-

ten about the German-Americans because they received so little mail. Promptly with the outbreak of the war letters were sent from the German Consulate in New York to every one of these German-American families asking to have wedding rings exchanged for iron rings. German agents presumably had gone through the country so quietly securing names and addresses that no one suspected their mission, and that is saying a good deal for a New England country district.

After the first appeal was made letters belonging to the follow-up system were systematically sent to these German-Americans something after this manner: A leaflet would be received containing a picture of the Kaiser and Kaiserin standing together and under it a description saying that he called her his "Little Rosebud" and she had always been "Little Rosebud" to him since the day when he first saw her cunningly curled up asleep in a hammock on the verandah of her father's castle. After that would come another leaflet indicating that America was a crude and unimportant country as compared with the lovely cultured fatherland that was now in danger. All of

this was done with such foxy craftiness that different kinds of men received propaganda literature adapted to their special callings.

Prussian effort at shifting blame for the G. D. I. War belonged in classification with psychologic ruse. That feature, however, was not new to the awareness of the human mind, and it did not catch people off-guard as did the more modern resources adopted by the Prussians directly from their laboratory of psychology at the university. The Crown Prince is quoted as saying that Germany was surrounded by an iron ring of enemies. Every pale clerk in the shop feels the same way about himself. If he lacks intelligence sufficient in degree for meeting competitors, he must then revert to more primitive methods and fight with his fists. Every plant and every animal finds itself surrounded by an iron ring of enemies. It resorts to internal resources of making up defence attributes. One reason why Prussia felt itself to be weak in defence attributes belonging to cultivated man was because of the synap head plan of choosing diplomats from among families of the nobility, allowing other qualifications to stand in secondary rôle. The natural antagonists of Germany,

having advanced farther along in some lines of culture, chose men of special fitness and training for diplomatic service, irrespective of original social position. This point of vulnerability in German development has proved to be a heel of Achilles in the Great Double Invasion War. Prussia, unable to meet other countries on a full even plane of intelligence in diplomacy, felt obliged to resort to primitive brute methods.

This war is one of applied chemistry, physics, and engineering so far as even competition between the Central Powers and the Allies is concerned. The Central Powers by adding applied psychology to their special armamentarium, secured at first the sort of advantage that belongs to the possession of some one powerful resource not employed by antagonists. This advantage of applied psychology will be offset in natural sequence by bumptious and lively American inventiveness coming into the field later as a powerful special resource.

Excepting for the military policy of frightfulness, it would have been difficult for Great Britain to have gotten together for purposes of team work the diverse opinions which interfered

with the solidity of mass unit force. In America there were loud impatient outcries against President Wilson because he did not sooner declare war; but President Wilson waited until the policy of frightfulness had so shaken America to its centre that a readjustment for mass unit force purpose became possible, with a solid country finally behind the President. The Germans were given to understand that the policy of frightfulness as an applied resource of psychology would produce one kind of effect, they did not understand that it would have a diametrically opposite effect, which it proved to have. They seemed incapable of learning from the object lessons which rapidly accumulated, preferring to adhere to the original German theory. Facts seemed to make little or no impression upon them.

Germany read history in a scholarly way. She found a record of savagery and trickery in all countries. She found also a record of truth and justice in all countries. Whirling her mind around in order to allow it to come to rest upon a winning number, she allowed it to rest upon trickery and savagery as national policy and then proceeded to make this a matter of choice

to be tried out as the winning number. It lost. The German people are still on earth, brimful of qualities for another intellection spin, with the chance of coming to rest on a winning number before Christmas in 1918.

One feature that has been overlooked in German-American psychology is a very potent one. Millions of Americans looked upon an equal number of German-American personal acquaintances with admiration for their civic worth, before the latter became insidiously infected by the psychologic propaganda. So many of the German-Americans who had prospered under democracy after their escape from autocracy expressed sentiments in favour of the Hohenzollern after the propaganda had misled them that all men of German name were looked upon for awhile with a certain degree of suspicion. One of my German-American friends said to me:

"You cannot know what it means to be looked upon with suspicion from morning until night. Perhaps ten times a day, every day in the week, I am looked at askance by people who do not realise the impression they are making upon me. I know where there are plenty of friends of German-American origin who will greet me

with open arms and it is human nature for every man to seek friendship that he knows is secure."

I have observed with keen interest the change in attitude of German-American citizens since the outbreak of the Great Double Invasion War. In advance of the disturbance the German-American group had constituted one of our very best elements in American civilisation—thrifty, law abiding, companionable, home-loving, in fact presenting characteristics which led us all to hold them in affectionate regard. They or their progenitors had escaped from Germany to a land where they could breathe freely and develop their ideals of individual action. At that time they did not despise the freedom. In conversation there were constant expressions of disapproval if not hatred of the government in the fatherland. At the very beginning of the war they exclaimed almost in one voice, "Um Gottes Willen, this is an officer's war, a Krupp's war, a diplomat's war, it has nothing to do with us or with the real German people at home." Like all of the first impressions which leap out uncorrected from the subjective mind, their view of the situation was presumably quite right as judged by the American people in general.

At that time the German-Americans remembered the reasons why they or their fathers came to this country in order to escape the results of efficiency. They knew that in southern Germany cockroaches were called Preussen and that in northern Germany cockroaches were called Schwaben. They knew what the Magyars, the Bohemians, and the Austrians thought of Prussians. They knew that members of different political parties called each other by names that the whole world now applies to all Germany and its sympathisers. They did not realise that for primal racial reasons many of them were still tubers upon the tenuous roots of an autocratic plant that had projected long stolons under many seas. It was because of this racial stolon connection that the expensive propaganda involving millions of marks was effective in the first months of the war.

Because of the working of well planned German propaganda external influence hastened the pro-Germanism of men and of women who had formerly been good Americans. External pressure consisted partly in expressions of fear and suspicion aimed at everything German. This external pressure produced more or less un-

happy impression upon German-Americans who had not been pro-German, and they felt themselves gradually being pushed away from other Americans who had formerly held them in wholesome and respectful regard. We then observed the second stage of German-American feeling which became more or less unified because of the application of two forces, an internal cohesive force of fatherland love and an external compelling force of inimical pressure. Many German-Americans forgot that their love for fatherland had previously increased relatively as the distance from that fatherland. They did not really wish to go back home mentally or physically excepting for vacation visits. From August to November, 1914, the German-Americans were largely in the state of mind expressed by the belief that the Great Double Invasion was an officer's war, a Krupp's war, and a diplomat's war. After November, 1914, up to the time when the order for unrestricted submarine warfare was sent out German-Americans were largely in the second phase of feeling which was an unconscious response to the combined cohesive force and the external compelling force

that had been brought about mechanistically by the use of vast propaganda funds having that object in view. A certain number of German-Americans remained as wide awake as did the wiser, more knowing Germans at home, the ones who at no time have approved of the war. These wide awake elements which had not been deceived at any time by the propaganda sent out from Wilhelmstrasse eventually succeeded in exercising catalytic influence until the German-Americans entered upon the third phase of mental attitude toward the government in the fatherland. By the summer of 1917 a correct view of the entire war had pretty well pervaded German-American sentiment and we were ready to take back most of our old friends into the folds again. It is not difficult for those of us Americans who have observed the course of events to understand and to take a bird's-eye view of the entire German-American question. It was somewhat difficult for us for awhile to understand why the German-Americans had responded so quickly to the trick of the psychologists. Teachers are aware of the fact that most people are pragmaphobic and do not like to bother with fundamental facts, leaving that

duty to the professors who know that the human mind brings many resources to bear against the introduction of knowledge into itself.

Treitschke made the mistake of believing what the German government appeared to believe, that Germans moving out of the fatherland were lost to that fatherland. At the beginning of the war when agents were sent out to German fraternal societies in order to give the false cry of "Wolf, wolf," their voices were paid for like those of opera singers. The German-American mass in America arose confusedly like a sleeping giant to the call and made us great trouble with its awkward half-asleep flounderings. These agents were not sent away from the fraternal societies. The case was different from that of Norman Angell who went to Germany before the war for the purpose of applying principles of psychology in the interests of peace. Mr. Angell was promptly dismissed from Germany on the ground that he was poisoning minds of influential people and was probably in the pay of perfidious Albion.

In order to keep the people of a warring country heartened, it is necessary for the newspaper press to deceive them about facts which

depress and to overstate encouraging material. This is required in order to appeal to the brain in such a way as to cause the secretion of the right sort of enzymes in proper degree. It is necessary at the present time in this Great Double Invasion War for the German press to keep the people deceived and the feature is arranged systematically by way of lynx-eyed censors who would lose their positions were the truth to be told. Some years ago when one of our Presidents was shot, the newspapers reporting the case from his bedside day by day stated in both morning and evening editions that he was every day a little better. The statement that he was a little better every day and the news more encouraging continued up to the moment of his death, and in some papers for a few hours after his death. In the same way the German newspapers are reporting day by day that the Empire is a little better off and this will probably continue until the hands of the Prussian government corpse are folded over its breast and its eyelids closed, sometime after the Ides of March.

The rapidly recurring instances of the application of the policy of frightfulness, and the im-

mediate response, showing that the effect is exactly opposite from that intended, would lead one to ask in wonder why it is the Prussians continue in a method which has been extremely successful in the interests of the Allies, through stiffening the backbone of resistance. The actual effect of the frightfulness policy is so clearly in evidence whenever it has been applied that we are left with one conclusion: it is apparently another method of Prussian self-expression. This method of Prussian self-expression, regardless of its consequences in reaction, is explained by the synap head theory.

The German staff reckoned that Belgium as a small country would know better than to show bravery enough to stand against the German armies. That idea belonged to the psychology of physical force. Belgium was the David which caused the downfall of a Goliath German Army. The downfall of the great German Army, caused by the Belgians, will be found to represent the psychology of moral force. Perhaps no more valuable object lesson of the relative value of these two forces could be found in all history.

Belgium was a field for many impressive ob-

ject lessons for the naturalist. When the tigerish fury of Germany flared up as a result of the impact of a huge military machine skidding up against Belgian resistance, sadism unbridled was at the same time given wine to drink and then turned loose. Shuddering neutrals ceased to be neutrals when they learned that satanic atrocities in Belgium were greater in degree than anything taught by honest Satan. The public could not understand how Kultur could commit acts more intensely beastly than those of any known beast; wilder than those of any wild tribe of man. The naturalist, on the other hand, knew that they belonged in the category with the withered left arm of the Kaiser and with his delusion of divinity. They belonged with the published accounts of homosexuality in the German Army. The naturalist understood that any animal or plant raised to cultural limitations manifests freaks in the course of decline which belong to disorganised adjustment of natural processes in the individual. The employment of gas and poisons in warfare meant to the naturalist what it meant to police officials in civil life. When a mysterious murder has been committed police detectives have a systematic way

of beginning investigations from the character of the means employed for the crime. A revolver bullet or a stab wound means in general that the assassin was a man. If some outrage is added to the employment of a stab or of poison the detectives at once assume that a masculine pervert is to be sought for. If we could obtain the personal histories of the knights who first proposed the employment of gas in this war it is to be supposed that a record of other acts belonging to decadent phenomena would be revealed. Furthermore, the actual adoption of gas proposals on the part of the German Staff could not have been anticipated by many people excepting naturalists, psychiatrists, and police detectives familiar with such data as had been already recorded by Germans themselves in relation to phenomena of decadence in Army circles. When manifestations of natural law are so clearly exhibited, the biologist and the practical stock farm man as well know that it will be in order for German officers to drink a toast to "Die Nacht" instead of "Der Tag," and "Deutschland, vorueber Alles!" will supplant the familiar slogan, in application to the present government at least. Prussia after a period

of remarkable development in culture reached cultural limitations in accordance with law.

The German Army was a small, well organised compact minority acting against the loosely organised majority of the Allied enemies. Hence the corroboration of political history in their successes during the first three years of the War. Gradually by means of the synap head policy of frightfulness and of lawlessness they assembled the large loose majority which is now at this time of writing nearly ready to dispose of the minority. The three chief advocates of the policy of frightfulness, von Clausewitz, von Hartmann and von Moltke and the one chief advocate of U-boat lawlessness, von Tirpitz, are perhaps the four men most responsible for the downfall of Prussia because of their effect in cementing the large inimical world into compact mass unit form. Many thousands of young Americans started out with mixed motives of a spirit of sport and adventure combined with deep moral conviction in the determination to get the pelts of these grizzly bears for trophies. These thousands of young Americans arose in a laughing and gay throng when Hindenburg and Ludendorf spoke contemptuously and cyn-

ically of our Army. Millions of older Americans arose in a spirit of grim determination in the interest of hearty and genuine humanity.

At the outbreak of the Great Double Invasion War a gasping world reached up for support to its idols of teachers in Germany. These great teachers fell at the touch like hollow images of clay. Even men like Harnack toppled over. They had not previously been found tottering by their peers, although Haeckel had shown human nature by publishing cuts of embryonic phenomena which did not really occur, because he felt so sure of himself, and Harnack had explained that he had one mind for himself and another mind for the serving of purposes. When stating that no one knew of the human weaknesses of the great German professors we must always exclude their wives and the servants in their houses, but the intellectual world which had placed dependence upon such great men did not believe them to be capable of getting down upon their knees in the dust and kowtowing to a dictator who asked them to be untruthful and ridiculous. An upstanding world lost no time in classifying them promptly.

The answer to Treitschke is the entrance of

the United States into the War. German psychology seems not to explain why the United States came in. It tries to find personal ambition on the part of President Wilson, and bases that idea, by analogy, upon the personal ambitions of the Kaiser. It tries to find commercial reasons, but is obliged to remember that it was commercial Germany blended with aristocracy which like the blending of whiskey consists in lowering the quality without changing the price. The blending of German plutocracy with its aristocracy lowered the quality without changing the price.

The history of our entrance into the war when illustrated by straight lines without shading, and suitable for the child mind would give us a picture something like this: Every American soldier is fighting for the civilians of Zabern. Every pacif is fighting for the officer who sabred the lame shoemaker of Zabern.

Our pro-German citizens of German blood are less contemptible than the pacif because the pro-German is the victim of a trick so well played that all excepting the most intelligent were caught by it. The pacif, on the other hand, arrived at his craven position unassisted.

On the approach of Christmas in 1917 a Baltimore clergyman sent out a finely worded appeal for mercy toward Germany because she had been so fearfully chastened. The letter might have done much harm in America had not the Kaiser followed it up almost immediately with his proclamation to the effect that if the Allies did not take warning and accept his peace terms he would smash their doors with an iron fist and a gleaming sword. That eased the situation at once. The Germans had been chastened, but they had not found out about it until the Baltimore pacif gave them the information.

The entrance of our United States into the war demonstrated a significant fact. There had been some question if we possessed a national soul. We have given evidence of owning a national soul of such pristine quality that it will furnish inspiring material for historians of the future.

Germany made fearful blunders in connection with Belgium, with unrestricted U-boat warfare, and frightfulness, while the Allies made equally fearful blunders in the Dardanelles, in not holding the Danube front against the extension of German middle Europe to the

Persian Gulf, and in not helping Serbia and Italy at opportune moments. The Allies have allowed Germany to expend millions of marks systematically upon elements of unrest in all countries, in America alone leading to something over five thousand strikes in 1917 as compared with only about fifteen hundred strikes in 1916. If the Allies learning from Germany were to plan for sabotage and strikes in a dozen nations which stand ready to be freed from German bondage, and would not only state their aims but aim their states so as to make these millions of people secure against the German enemy the advice of Ovid would have been followed to good advantage in learning from the enemy. The Allies have wisely hesitated about reprisals for German fiendishness which lay outside of military advantage and which represented nothing more than Prussian self-expression. Even such a small matter as wanton destruction of fruit trees appeals to every American who has been brought up with trees as beloved companions of his youth. Thousands of young men reading of that form of Prussian self-expression clenched their fists and prepared to start off on a hunt in the spirit

in which they would go after woodchucks that had caused damage in the garden. The lust of the chase in a spirit of sport was aroused against the Germans quite as much by this sort of demonstration of Prussian self-expression as was aroused among cultured people by the destruction of the Cathedral at Rheims. The military advantage of injuring that cathedral redounded manyfold to the side of the Allies. But the German synap head has not as yet found out about that.

Germany had an instinctive dread of Russia. This was well justified, but with her synap head she started in to control Russia by way of Belgium. The English government had been "dying for a chance" to get at the German government, but had so little expectation of luck that England had not even made preparation. Germany threw the luck into England's hands. Even then the English people as a whole were so much opposed to war that for months there was a question if there could be union in support of the government. Germany with a synap head united all England by deciding to bomb babies. It would have been practically impossible for Germany to have brought peaceful and pros-

perous America into the War had not Germany with a synap head decided upon a U-boat policy without mercy.

Germany with her Berlin to Bagdad conquest would have retained tremendous strategic advantage had she not with a synap head decided to massacre Armenians and to brutalise her agent, the Turk, as he had never been brutalised before, in order to bring about the result that united America in the belief that no such beast should be allowed at large over such a range. And now America will not allow Germany to maintain her position. It has aroused the sporting spirit which comes to men who go out to hunt bears.

Defeated Germany deprived of Alsace-Lorraine, deprived of her outlet toward the Orient, deprived of her commerce, and her colonies, and with underground Flanders filled with the youth and strength of Germany, will be convinced that her fears which had led to colossal armament were really valid. The German people will place the blame for their ruin upon the overwhelming superiority of numbers of her enemies. Germany will not be likely to ask why she committed the blunder of giving all of these superior

numbers a chance to get into action at a time when she was winning without firing a gun.

One feature worthy of note in America relates to the Jews and their attitude toward the war. We may divide them into several classes. First there were the great citizens of the sort famous in every country where the high intellectuality of the Jew has made him a most valuable stone in the edifice of government. Then there were large numbers of Jewish immigrants not yet affiliated and wholly unfamiliar with the American spirit. Their traditions were nothing more than the desire for some quiet spot in which they might sit down and do business without much disturbance from any government. This group furnished a large proportion of slackers when the call to arms came. Lastly and very importantly the Jews who had been known as ultra Socialists and anarchists set about attracting much attention toward themselves and making trouble for our government. It was difficult to understand why these Jews were turning to bite the hand that helped them to freedom of thought and action in a country where they were prospering. The explanation suddenly came to mind one evening when I was

attending an Emma Goldman meeting. Many of the Jews present possessed hair and eyes of colour suggesting that the men and women were not purely Semitic. Immediately there came the thought that these anarchists and ultra Socialists were largely Eurasians, representing hybrids of the sort which the naturalist already knew to represent an unstable element in all governments. If this view proves to be correct on further examination of the subject it will allow us to make rational classification of Jews who do not add to that great credit which we freely give to the best and purest Semitic element. Because Trotzky and so many of his Bolshevik colleagues are Jews the question of their being Eurasian hybrids becomes important in a special way in relation to Russia.

When biology, including its branch of anthropology, is brought up to first rank position in the philosophy of government, it promises to introduce one of those new features which we may anticipate as properly belonging among various new features of progress in governments in the future.

SUMMARY

SUMMARY

A DISTRACTED world is groping about eagerly seeking the light and a way out of the warfare question. It paces back and forth, back and forth, but always within the confines of social history. It will find no outlet there. Natural history gives an outlook, it may not show a path devoid of thorns and rocks, but light and fresh air the world may have while on its way to cultural limitations.

Warfare of one kind or another in one form of expression or another occurs throughout the inorganic world and throughout the organic world. We are to distinguish between warfare meaning struggle for advantage of position, and warfare which causes direct killing. Man is the only mammal that kills his own kind directly, and in that act indicates that he is working abnormally in opposition to natural law relating to the preservation of a species. The reason why he works abnormally (normally meaning in ac-

cordance with the history of evolution of other organisms) is because he has defective brain construction. We postulate that he has defective brain construction, basing the idea upon appertaincy and upon our knowledge of the fact that man's anatomy is mechanically faulty. Its defects are apparently due to man having assumed the erect position—a posture which seems not to have been anticipated by nature. Function and structure are always closely allied and brain function following defective anatomical structure has resulted in a condition which allows the psychologist to estimate that something like seven-tenths of all human action is based upon misconception.

The natural history of warfare, beginning with the primal contest between amœba and microbe, may be traced through all organic life, its demonstrations incidentally including the present war, and giving us a vista looking toward the nature of future wars. The expression "war" is a colloquialism commonly signifying warfare-by-arms. Struggle is continuous through all phases of organic life, and the microbe finally destroys all plants and animals which are not destroyed by some intercurrent

accident. All organic warfare is fundamentally enzymic in its processes, not only between the lower organisms which fight with their secreted enzymic poisons, but also among plants and animals, including man, man being activated in warfare by his enzymes.

The relation of war to the species is that of a destructive process in all of its final phases. The reason for that is because it exhausts a part of the fund of vital energy which belongs by natural inheritance to germ plasm.

All nations consist of hybrid groups. These hybrids are varietal as the result of crossing between closely allied varieties, or they are specific, the result of crossing between sub-species of man. Varietal hybrid nations are prone to be durable of tenure, and stable under good leadership. The specific hybrid nations are prone to be turbulent under any leadership. All nations come and go like varieties of plants and animals and for the same reason, being subject to the laws of protoplasm. The salient actions in any nation may be anticipated by the naturalist who studies the particular habits of the hybrid groups representing that variety.

Diplomats look backward to past history like

Chinamen when choosing data for action. The naturalist looks forward to the union of better and better elements forming the natural world state, basing this view upon his knowledge of the result of orderly processes of construction according to natural law. It is the diplomat, chief of the "political clan," who constructs policies from past history and precipitates war.

This war is spoken of in these notes as the War of the Great Double Invasion in the meaning that the prosperous German people winning the world steadily by superior skill and intelligence were invaded by a military caste coincidentally with the invasion of Europe by this same caste, working in its own selfish interest.

In this war applied psychology was for the first time in history raised to the point of first-class military importance by the Germans who thereby gained great advantage at the outset through having a new and important resource at their disposal. In the Russo-Japanese War preventive medicine was for the first time raised to first rank position, giving great military advantage through that resource.

According to natural history, the Belgian atrocities were notably the ordinary phenomena

belonging in category with the Kaiser's withered left arm, and with the perversions described in the Maximilian Harden disclosures, also by German psychopathologists in recent years when decline was becoming a recognised menace in the capitals. The Prussian gas knight as anticlimax hero represents anticlimax in sexuality.

Warfare-by-arms will continue for some centuries yet in all probability, but with ever lengthening periods of peace. According to the laws of continuity, order in nature indicates that in the end a world state will emerge, following the already accomplished union of states in larger and larger groups since the days of small tribes and clans. This will be similar to the way in which organs of a plant gradually developed and became united by mutual interdependence to form an organic whole in an oak tree. Negative and positive pressures under varying conditions of light and of temperature serve to keep the nutrient sap flowing through the widely distributed channels of a plant; so among nations, the positive and negative pressures of debt and credit will serve to keep the "international mind" flowing freely through the trade channels of nations. The philosophy of

Treitschke mistook Darwin's idea of struggle as being more important than his theory of mutual interdependence, the latter being the one, however, which stands for victory as a result of struggle. Had the Prussians been better naturalists they would have perceived and employed a philosophy of mutual interdependence with other nations which constituted their best "colonies." Autocracies have been tested out in the laboratory, and apparently democracies are now to take their turn in the laboratory for a fuller degree of testing.

THE END

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